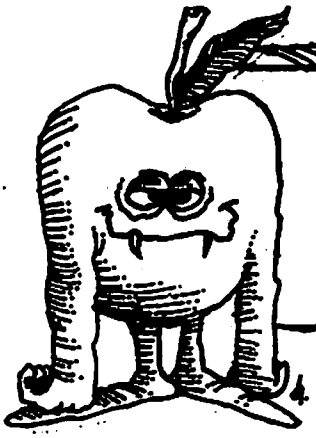

NORTHERN ILLINOIS APPLE USERS GROUP

INFORMATION

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BULLETIN BOARD (312) 392-6232

VOL 7-NO. 2

THE HARVEST

MARCH, 1985

IN THIS ISSUE

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Treasurer—	Jim Murphy	312-449-3139
Secretary—	Don Strauss	312-593-0853
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Newsletter Editor—	Terry Tufts	312-392-7735
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Meetings Co-ordinator—	George McClarity	312-359-0283
Beginners SIG Co-ordinator—	Guy Lyle	312-359-1458
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MEMBERSHIP, ETC.---- NIAUG
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LIBRARIAN---------- Don L'Amoreux
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60004
312-394-0386

BULLETIN BOARD------ 312-392-6232 24 hrs
SYSOP-Loren Avenson

Membership is open to all. Dues are $24.00 annually with a one time initiation fee of $5.00 at the time of admission. Membership applications are available from the club Secretary at the meetings or by mail.

HARVEST STAFF

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Layout———————Jay Toutenhoofd
Helen Tufts

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Hardware ———— Chris Otis

Software ———— Rich McNeil

Beginners ———— Sheldra Horwitz

Book Reviews ———— Bruce Baier

News Releases ———— Chris Tufts

Labels ———— Ken Rentfleish

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(312) 526-3186

—— Bill Johnson

SUBMITTING ARTICLES

The Harvest is for the members and space priority is given to member written articles. We solicit any articles pertaining to the users group or computing. If you have a product review, a comment, an idea, suggestion, complaint or an ad, send it to the Editor or Harvest Co-ordinator listed on the members aide for your group. We accept all articles and will do our best to make you look good in print by making corrections where necessary. We are after your ideas and knowlege to share with your fellow members.

Hand written articles are acceptable but we prefer them on disk. Please always include a hard copy of your article as well. Program listings must be hardcopy or on disk they will not be retyped.

We accept articles written on the Apple II family as well as the Macintosh and the IBM PC, XT series of computers. We can accept articles written using the following software packages: Apple II- Applewriter I & II, Easywriter Standard, PIE, Magic Window, any text files produced in Apple 3.3 Dos; Macintosh- MacWrite; IBM- Multimate, Wordstar. if you have other software files contact the Editor to make special arrangements.

FORMAT: For Macintosh please use 10 point, New York font for text and and 12 point Plain font for headings. Make all text single space no paragraph indentation with a double space between paragraphs. COLUMN WIDTH- final hard copy should be either 3 1/2 or 7 1/2 inches wide.

MEMBERS AIDE

The members listed below have volunteered to answer questions from club members who need a "HOTLINE" type answer that can be handled over the telephone. Please try to be brief as a courtesy to them. PLEASE NO CALLS at dinner time or after 10 pm.
ADDITIONAL VOLUNTEERS REQUIRED TO FILL OUT THIS MEMBER SERVICE. IF YOU FEEL QUALIFIED IN ONE OF THE SUBJECTS BELOW PLEASE CALL THE EDITOR TO HAVE YOUR NAME ADDED TO THE LIST.

APPLE II, II+, IIe, IIc

ACCOUNTING

The Accountant	Walt Hopkins	815-459-1769
Home Accountant	Tom Grisko	312-297-0927
Time is Money	Bob Steinberg	312-677-8787
BPI	*Debbie Hauser	312-272-8236
	*daytime	

BEGINNERS AIDE

	*Rich Lundeen	312-420-8468
	*Applesoft, DOS, Assembler VisiCalc	

BULLETIN BOARDS

	Joel Alpert	312-295-6078

GENERAL

	Paul Stadfeld	312-359-2378

TECH NOTES

	Joe Zeinz	312-526-0575

COMMUNICATION PACKAGES

ASCII Express	Joel Alpert	312-295-6078
	Tony Antonucci	312-282-8436
Z-pro	Tony Antonucci	312-282-8436

COMPILERS

Tasc	Rich McNeil	312-986-0548

DATA BASES

dBase II	Ron Curtis	312-827-1157
DB Master	Max Rubin	312-674-7209
	Natalie Alberts	312-381-1530
Data Factory	Ken Falter	312-259-6474
General Manager	Rich McNeil	312-986-0548
List Hander	Carl Johnson	312-256-6094
Visifile	Wayne Mitchell	312-537-3834
PFS	Byrd Dehinten	312-998-8742
	Rich McNeil	312-986-0548

EDUCATION SOFTWARE

	Jim Bradshaw	312-881-7000

FLOPPY DISK DRIVES

8" disk Drives	Tony Antonucci	312-282-8436

GAMES

	?	?

GENERAL BUSINESS

Stats Plus	Ken Falter	312-259-6474

GRAPHICS

	Paul Stadfeld	312-359-2378

HARD DISKS

Corvus	*Dave Drucker	312-541-2124
	*daytimes Walt Hopkins	815-459-1769

HARDWARE

	Jim Murphy	312-449-3139

INVESTMENT

	John Hoffmann	312-998-0164
	Jim Bradshaw	312-881-7000

LANGUAGES

(A)pplesoft, (I)nteger, (P)ascal, (F)orth, (L)isp, (M)achine code,		
A,I	Ted Rosemann	312-882-7938
A,I	Mary Rosemann	312-882-7938
P	Herb Schulz	312-968-6927
P	*Dave Drucker *daytime	312-541-2124
A,I	Rich Lundeen	312-420-8468
M,A,I	Paul Stadfeld	312-359-2378
M,A,I	Guy Lyle	312-359-1458
M,A,I	Earl Allen	312-837-9259
A,I,P	Ken Nestle	312-620-7745
A,I,	Jim Murphy	312-449-3139
A,P,C,	Tony Antonucci	312-282-8436
8080, Z80 Assembler	Tony Antonucci	312-282-8436
F	Bob Sullivan	312-383-7785
C	?	?
A,C,Cobol	Loren Avenson	312-259-9433
Fortran	John Kelley	414-354-7656
Logo	?	?
Pilot	?	?

MODEMS

Apple Cat II	Michael Beyers	312-784-3856
DC Hayes Micromodem	Joel Alpert	312-295-6078
	Tony Antonucci	312-282-8436
	Rich Lundeen	312-420-8468
DC Hayes Smartmodem	Larry Fox	312-295-6774

OPERATING SYSTEMS

Apple DOS	Jim Glore	312-843-3215
	Tony Antonucci	312-282-8436
CPM	Tony Antonucci	312-282-8436
UCSD P-System	*Dave Drucker *daytime number	312-541-2124

SPREADSHEETS

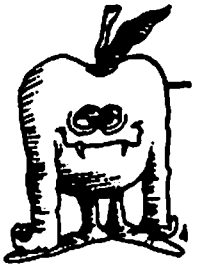
Multiplan	William Neurauter	312-980-4785
Microfinesse	*Dave Drucker *daytime number	312-541-2124
LogiCalc	Peter Clarke	312-545-0974
The Spreadsheet/ Magi-calc	?	?
	Joe Sobel	312-398-1836
VisiCalc	Joe Sobel	312-398-1836
VisiCalc	Jay Toutenhoofd	312-359-1460

PRINTERS

General	Terry Tufts	312-577-7381
Apple Dot Matrix	David Macaulay	312-991-4977
Diablo	Peter Clarke	312-545-0974
IDS	?	?
Epson	Tony Antonucci	312-282-8436
NEC Spinwriter	Beldon Rich	312-272-8236
NEC 8023	?	?
	Rich Lundeen	312-420-8468
ProWriter	Tom Grisko	312-297-0927
Okidata	Peter Clarke	312-545-0974
	*Dave Drucker *daytime number	312-541-2124

WORDPROCESSORS

Easy Writer	Terry Tufts	312-577-7381
Apple Writer II	Ken Falter	312-259-6474
	Rich McNeil	312-986-0548
Appleworks	Karen Crosson	312-428-5451
Format II	?	?
Magic Window	Ed Evenson	312-255-3403
	Rich Lundeen	312-420-8468
ScreenWriter II	Rich McNeil	3i2-986-0548
	Tom Grisko	312-27-0927
Supertext II	Larry Fox	312-295-6774
Apple Pie/PIE Writer	Walt Hopkins	815-459-1769
Word Handler II	Carl Johnson	312-256-6094
WordStar	Peter Clarke	312-545-0974
	Tony Antonucci	312-282-8436



MEMBERS AIDE

MACINTOSH COMPUTERS

BULLETIN BOARDS		
	Brian Lndzion	312-777-8684
Compuserve	Alan George	312-541-7819
LANGUAGES		
Pascal	Fred Bockmann	312-640-8082
C	Brett Bilbrey (w)	312-956-0710
Assembly	Tom Ptok	312-991-4021
DATA BASES		
Helix	Alan George	312-541-7819
MS File	Fred Bockmann	312-640-8082
Filevision	Randy Kaempen	259-6369
GRAPHICS		
MacDraw	Gary Patterson	312-895-0721
SPREADSHEETS		
MS Multiplan	Tom Foss	312-397-4308
	Randy Kaempen	312-259-6369
WORDPROCESSORS		
MacWrite	Don Aschermann	312-674-9251
PROJECT PLANNING		
MacProject	Alan George	312-541-7819
BEGINNERS		
	Harry Kropp	312-764-8836

IBM PC, XT COMPUTERS

BEGINNERS AIDE		
	Rich McNeil	312-986-0548
GENERAL		
Technical	Brian Erst	312-587-0516
COMMUNICATION PACKAGES		
Smart Term	?	?
Crosstalk XVI	bob Steinberg	312-679-2650w
DATA BASES		
EDUCATION SOFTWARE		
	Jim Bradshaw	312-881-7000
FLOPPY DISK DRIVES		
GAMES		
HARDWARE		
Video Boards	Bob Steinberg	312-679-2650w
LANGUAGES		
Assembler	Brian Erst	312-587-0516
BASIC	?	?
Pascal	Brian Erst	312-587-0516
MODEMS		
SPREADSHEETS		
Lotus 123	Kim Vavrina	312-695-4039
PRINTERS		
General	Terry Tufts	312-577-7381
Epson	Tony Antonucci	312-282-8436
Panasonic 1092	Bob Steinberg	312-677-8787
	Rich Lundeen	312-420-8468
ProWriter	Tom Grisko	312-297-0927
Okidata	Peter Clarke	312-545-0974
	*Dave Drucker	312-541-2124
	*daytime number	
WORDPROCESSORS		
WordMark	Bob Steinberg	312-679-2650

EDITORIAL

by Terry Tufts

DON'T BE CAUGHT WITH YOUR PURCHASES DOWN!!!!

If you have been ignoring some of Al Guthrie's chronicling of the ups and downs of the electronic industry, you may be dooming yourself to owning an orphan. There are many peripheral equipment manufacturers that have well known names, but relatively small market shares. The present overcrowded conditions in the market are soon going to see a lot of marginal operations cease. Quality made products are going to fall by the wayside and there will be little or no service or part support left to show they ever existed.

In the printer world there are about 50 manufacturers making dot matrix printers. Epson, Apple, Okidata have over 70% of the market. The remainder is split amongst the other 46 manufacturers with none having more than a 3% share. Citizen is a new entrant and has big bucks and the apparent long term determination to carve out a share of the market. If they succeed someone else will have to fail. As you can see, the odds are great that you can back the wrong horse unless you pay very close attention to Al's tip sheet. So the next time a slippery type siddles up to you in a crowded computer store and says hey Bud, and touts you on a long shot, take care to heed the odds.

MIRROR MIRROR ON THE WALL WHO'S THE FAIREST OF THEM ALL???

If you want to see the direction that computing is going, drop into the MAC SIG. If you've wanted to see 4 programs running simultaneously, then the Slicer program will blow your mind. Our sister group is an exciting group to see because of the new software that is continually being released with its innovative and professional quality. If you want to renew the excitement that you felt 4 years or more ago, when you got an Apple II, stop in and introduce yourself to the new people in our club that meet on another Saturday. They are extremely hospitable and the group is small enough that there is room for personal interaction. There is no question that Apple is leading the way in new computer technology. It is being introduced on the Mac so we in the Apple II group will have to content ourselves with the expectation that this new technology will come on a II next year.

PITY THE POOR BOSS!!!

I watched two people playing a computer game and then I realized that they were playing on separate Macs that were interconnected. Can you imagine trying to catch people goofing off on the job by playing a computer game with an opponent who is a thousand feet away on another machine. Or even worse suppose he has 3 other programs running simultaneously and can switch from one to another with a touch of a button without skipping a beat on any of the others. Oh well maybe it will be made up with productivity improvements.

PRES SAYS....

by Rob Stewart

Off in the distance, I faintly hear ringing, a sad melancholy bell. It is signalling to all that will listen. It tells of the near death of of one very near and dear to each of us. O woe is me. The Apple][is dying.

It suffers from a long and painful disease. Neglect! Its father was seduced by big finance and corporate politics. Its other father put up a valiant struggle, and tried to help as much as he could; but in the end, finance and politics frustrated him at every turn. YES. Woz has left Apple and started a new company, not in computers (DRAT!).

But wait. The][is still in production. What can this bell mean. It means that you WILL NOT SEE any new developments in the][family (at least none of any importance or radical improvements) coming out of Apple. When Woz left, we, the Apple user, lost our one last hope for innovation to the][family.

Apple may not care about Apple users, but I would think that Apple stockholders would be interested. I must be wrong. The stockholders don't care about their investments.

With 2 Million Apple][computers sold, the][will have a long life ahead, just no startling improvements from Apple.

Why don't we have a real disk drive on a][? One that that doesn't nibble read the data from the disk that allows innumerable options for copy protection. One that stores 400+ k on a floppy, instead of 150 k? Why are we limited to only 64k worth of address space, and have to play games with bank switching if we want any more memory? Why don't we have a 16 bit][? Why don't we have a REAL GOOD Operating Ssystem for the][? Why is Apple pushing mice at us? They must think we can't type!

Come on you][owners. Support your][product developers. BUY that software package, don't copy it from a friend. Let the developers know you want GOOD, but INEXPENSIVE, UN-PROTECTED SOFTWARE and YOU WILL PAY A FAIR PRICE FOR IT! If you want new products, you have to pay for them. If we want any products that will enhance the][, be willing to support them with purchases, not kill them with piracy.

Come on you developers. We can't wait for Apple to 'git off the pot'. You can tell from the support you get from Apple just what they think of the][family. You know there is a market out there. We are demanding products. Won't you please sell us something good? We WILL buy. We just don't want to give up our first born son for that piece of hard (or soft) ware.

APPLE, ask not for whom the bell tolls; it tolls for thee. Either lead, follow, or GET OUT OF THE WAY.

(I ran out of slack this month.)

Rob Stewart, CDP
President, NIAUG

RENEWAL TIME IS HERE AGAIN

By Joseph Sobel, Treasurer

Well, its renewal time again. As you all must be aware by now, the cost of everything is rising today. NIAUG has not been immune to the ravages of inflation any more than the rest of the economy. Ever since NIAUG was founded over three years ago, there has not been an increase in the annual dues. However, we now find ourselves faced with the need to raise the annual membership fee in order to maintain our ability to serve the ever increasing ranks of our membership. The increase, to $24.00, has been necessitated by the general increase in prices experienced by all of us. In addition, there has been little if any change in our financial position since the beginning of the year. But, more importantly, there are many future contingencies which may require substantial amounts of cash in order for us to maintain our present activities. These needs include the possible increase in rental rates for meeting facilities necessitated by a move to a new location and the related costs for audio/visual equipment which may be required. The group's records are now being maintained on a general ledger system on the Apple. For those of you who are interested in the group's finances, they will be reviewed at each planning meeting on the Tuesday evening following the general meeting.

The good news is that your increased dues will continue to provide you with all of the activities and membership benefits which have been such an important factor in sharing our knowledge, or lack thereof, of the Apple, including:

1. Monthly newsletter
2. Monthly meetings
3. Help line
4. Disk library
5. Paper library
6. Special interest groups (SIG's)
7. IAC representation

northern illinois apple users group

1271 West Dundee Rd., 25A, Buffalo Grove, IL. 60090

7-Mar-85

Eric Stral

COPY

Dear Eric;

I was shocked, and suprised at your anger over statements made by Terry in his Jan-Feb 85 Harvest Editorial. As you could tell, I had no idea what you were talking about when you phoned, until you supplied me with the details of your outrage. In re-reading the editorial, I understand, at least to some degree, your feelings.

Editorials are an expression of an opinion. In this case, Terry's opinion of the reasons for the dues increase are contrary to the reasons you have stated to me, and we will publish a retraction and correction immediately. In checking back in the Harvest, I found reference to the stated reasons for the dues increase, and an excerpt of Joe's Renewal article from the November 1982 Harvest, will be included. This was a completely unintentional error on Terry's part and just shows how memories of the same events change after almost 30 months.

Let me state, more directly, that I, and Terry, apologize to you, Eric Stral, for any injury to your reputation that you feel these statements may have caused. The OPINIONS EXPRESSED by Terry in his editorial WERE COMPLETELY INCORRECT. We also apologize to anyone else who feels they have suffered any injury because of these statements. This letter will be published in the next available Harvest, as a retraction and correction of statements made in Terry's Editorial, along with the above mentioned excerpt from the 1982 November Harvest.

COPY

Sincerely yours,

Rob Stewart

Rob Stewart, CDP
President NIAUG

ESPECIALLY FOR BEGINNERS

by George McClarity

It took nine months, but something new was born at the BEGINNERS GROUP meeting in January. Before we say exactly what was born, let's go back to last May and start the story at that point.

NIAUG had been around for more than five years and the monthly meetings at Harper College have proved to be informative and helpful to all that attend. However, the world of personal computer owners had been changing. What is meant by that is that the days in which it was almost mandatory that a personal computer owner must be proficient in programming were sliding into the past. The world of "hackers" and programmers will be with us for the foreseeable future, but, no longer are these skills mandatory for new, first time, computer owners.

It can be difficult for old timers (those who have been using their computers for at least three years) to really relate to someone who has just purchased their first computer and doesn't know the difference between a bit and a byte, and furthermore really doesn't care to. This newcomer to computerdom wants the computer to be as useful as the family car. After all, who wants to know how to design a carburetor when all that's needed is reliable, convenient personal transportation?

(I told you we were going to go back to last May, here is where we finally do it.)

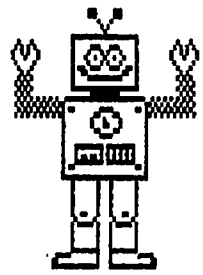
Comments made by some beginners at the monthly meeting revealed that much of the information being presented was going right over their heads. In an attempt to rectify this a "Beginners Group" was started in May 1984. We have met once a month since then and have helped each other very much over the last nine months. As a matter of fact, we have helped each other so much that it was becoming obvious that we were no longer the struggling beginners that we used to be.

This created a small problem which is quite similar to the original one that brought us all together in the first place. Specifically, when a brand new beginner joined our group, how was he/she going to get the individual help that is needed. (Its like trying to get on board a train that is moving through the station at forty miles per hour.)

The problem was presented to the members of the group at the January meeting. As we discussed it a whole new idea evolved; to rename the existing group the "Intermediate Group" and start a new "Beginners Group". Of course, the one key thing that made this possible is that we got a volunteer from our group, Bob Kaminski, to host the new group. We also agreed to help Bob by having at least one member of the Intermediate Group in attendance at each meeting of the new Beginners Goup.

At the beginning of this article I called this a new idea, but if you really look at it isn't this what NIAUG is all about? We are a group of individuals all helping each other in some way. There are various special interest groups (SIGs) within NIAUG and beginners and intermediate users whose interests are broader than their present capability level are further evidence of the benefits derived as NIAUG a member.

Are you a beginner? Come to the next NIAUG monthly meeting and introduce yourself to the other beginners. Lets help each other!



INDUSTRY NEWS

Eye On the Industry.....by Al Guthrie

The Woz has been to see the Wizard and now he can go home again. The Land of Apple may be nice, but its a bit confining, and besides, they no longer appreciate the II as they should. Of course, his new company (MBF) isn't exactly the garage he started from, but it will let him pursue his new interest in video and home control devices. Some of the IIc and III engineers are going with him. You don't suppose he'd . . .. No, he wouldn't.

The Apple Bites Back.

The recently introduced Eve computer, an Apple II clone, is now locked in an Apple warehouse pending trial for copyright and patent infringement. Eve says she licensed the offending software from S&H (Serpent and Hades?) Software. But the Apple says S&H could not transfer the license. The seizure followed several months of investigation by an AI (Apple eye).

Apple II Forever.

The IIe and IIc sold about a million units in '84, bringing the installed base to 2.3 million. Apple's dollar market share was 42% to IBM's 34%.

Price Wars.

Atari Attacks...

with a planned price cut to $100 for the 800XL. The original price was $180, cut to $120 for Christmas. On the down side, they have closed a plant in Ireland due to high labor costs.

And more bad news: a group of ex employees are suing. They claim Warner Communications made them lavish promises in return for their loyalty in staying with Atari despite the companies many troubles. Then the firm was sold to Tramiel and they were all fired.

Meanwhile, Commodore falls back.

Christmas sales went poorly. In fact, they over-produced by 50%. Look for fire sale prices if the inventory isn't moved out of the warehouse before the new line hits. Commodore has said their newly announced line of computers may be too complicated for mass-market channels and they may go back to the computer stores they once abandoned. The computer stores think differently.

How The Empire Disturbs The Force.

There is no doubt that IBM disturbed the Christmas sales for a lot of the competition by discounting the PCjr so drastically. However, a lot of the sales junior made were at the expense of PC. Also, now that prices have returned to normal junior's sales have gone back to being an embarrassment to his parent. Look for a permanent price cut and more pain for the competition.

Ring-A-Ding.

A rebellious group of Entre store franchisees announced they had become AT&T dealers in defiance of the franchisor. AT&T says it never happened. Sounds like Leading Edge vs AT&T over again.

Life On The Street Is Hard.

DEC has stopped production of the Rainbow, somewhere over which they have never gotten. DEC intends to sell off the inventory and then introduce a new and more colorful personal computer. The question DEC dealers must ask is; who will buy a machine that is out of production and due to be replaced, when the machine never sold well to begin with?

Joining the Crowd...

General Electric plans to sell printers, modems and monitors for the Apple, IBM, Atari and Commodore lines. Sales will be through mass-market channels.

Chapter Seven (or worse). . .

R.I.P. Acorn. Failing in its attempt to dent Apple's hold on the school market, Acorn has withdrawn from the U.S. market altogether. Meanwhile, back at home (Britain) it is losing out to IBM, and its government support is drying up. Adding to its troubles, it got into a price war with Sinclair and lost.

. . . Eleven . . .

About to slip from Chapt. 11 to Chapt. 7, Beehive got a reprieve when Continental Illinois Bank agreed not to push them over the edge.

. . . And Counting?

Corona cut its staff 18%. The sales VP resigned and has been replaced by the former sales VP of Franklin.

Employment at Eagle is down to 72 from an original 300 and they have managed to reduce their debt to $2 million by talking the creditors into taking Eagle stock in lieu of money. The chairman has resigned.

Fortune Systems expects to close the books on 1984 with a $19 million loss.

Compushop has dropped the price of the Mindset computer by $700, and will drop the machine as soon as they can get rid of the inventory.

The troubles of Visicorp are well known and need no retelling. They declared they had learned their lesson and would stick to marketing and leave software development to others. Then they merged with Paladin, a start-up founded by a former Visicorp employee. Paladin declared the merger good, because they were developing new software and needed the Visicorp marketing skills, and besides, Paladin was a better name than Visicorp. The Paladin founder was named CEO of the new firm.

Now, the Paladin founder has resigned amidst a number of layoffs and the new company is talking like the old Visicorp: all marketing, no development. Who swallowed who?

The TRS-16B is now known as the Tandy 6000, one more small step on the road to respectability. It's a 16-bit multi-user system for $4,500. Thats four and a half K dollars in computer talk, or as the engineers might say, 45 cents times 10 to the fourth.)

Vector Graphics has found someone in Hong Kong to guarantee its debts and keep it out of Chapt. 11, for a while anyway. The Hong Kong angel now has substantial control of the company.

The reported rescue of Visual Technology by Lee Data has been called off. Visual has laid off an additional 16% and closed a plant. Two executives have left.

TTX, the printer marketer, has cut its staff to two, one of which is the CEO. It seems their Japanese suppliers have cut them off. Chapt. 11, here we come.

Xerox is phasing out Shugart and selling off the pieces. Sort of a corporate Edelman.

Who's Edelman?

We reported on Mr. Edelman's activities in the last issue, and thought you'd like an update: Management Assistance Inc. (MAI)

Dismemberment continues with the sale of MAI Canada to Bell Atlantic. Part of the deal includes Mr. Edelman as a consultant at $50K per month.

A Bell Atlantic subsidiary is buying Sorbus.

Meanwhile, several employees of Basic Four, which was closed, have bought the rights to the Basic Four software and formed a company to market it.

Mohawk Data Systems has sold its DEK division. DEK supplies 70% of the U.S. drivers licenses through its photo equipment.

Datapoint Corp changed their bylaws to make a takeover more difficult. Edelman has gone to court claiming that's dirty pool. Meanwhile, Datapoint is faced with lost sales and rising stock prices.

See You All In Court.

Apple vs Microcom of Canada, a loser for Apple so far. The Canadian court refused to grant Apple an injunction.

Wisconsin Dealer vs Apple and U. of Wisconsin has been dropped for lack of money. The issue of whether it is proper for Apple to supply university stores at below dealer cost remains unresolved.

Leading Edge vs Mitsubishi and vice versa. Leading Edge dropped contempt of court charges and Mitsubishi dropped the price of the machine they are selling to Leading Edge by 15%. The law suit is still on though.

Oak Industries vs DEC for patent infringement relating to a keyboard.

Steps In The Right Direction.

Microsoft has added a 30-day money back guarantee to its Word word processor, which is quite a change from the usual 'don't blame us' warranty so common in the industry.

Micropro has taken the copy protection off the new Wordstar 2000. Too many problems trying to install it on a hard disk.

For What It's Worth Dept.

You can look forward to an increase in your junk mail soon. Columbia House, the company that sells records by book club methods is starting a software of the month club.

So many company names start with 'Compu' that one of the earliest, CompuPro, changed its name to Viasyn.

Microcomputer Communications

Dr. Jeff Seaman, Director, Microcomputer Services
Chris Swisher, Assistant Director, Microcomputer Services

Communicating with the outside world is possible with your microcomputer. What's required is some additional hardware, some additional software, and a willingness to give it a try. While the process is not always easy, we hope that this series of articles will provide some necessary assistance for those of you interested in adding communications to the range of capabilities of your computer. We'll provide recommendations for both hardware and software for Macintosh, Lisa, Rainbow and IBM PC computers.

Why communicate?

Configuring your system to communicate extends the reach of your microcomputer in many ways. A microcomputer can act as a smart terminal to mainframe installations on campus and nearby research centers. Furthermore, microcomputer communications can simplify the process of exchanging data between different machines. For example, this document, which was originally written on a Macintosh could be edited on an IBM-PC by transferring the text file over a telephone line. Similarly, you could exchange documents with a university in New York or recipes with your aunt in Kansas City.

A communicating microcomputer can also give you access to a wide variety of databases and information utilities. These fee-based information services include bibliographic databases like BRS After Dark and DIALOG Knowledge Index, information utilities such as The Source and Compuserve, services like Dow Jones, and complete texts of daily newspapers like *The Washington Post* and *The Philadelphia Inquirer*.

Hardware and Software Presentations

Microcomputer Services is sponsoring a series of presentations by hardware and software vendors this semester. Having vendors on campus will give people opportunities to see and, in some cases, try out equipment and programs that they would otherwise have difficulty getting access to. So that as many people as possible can benefit from these presentations, they have been loosely structured—representatives will be on hand for several hours answering questions and demonstrating their wares.

IBM. *Wednesday, February 20. Noon to 4:30 p.m.* Room 285 McNeil. The products slated to be shown are the AT microcomputer, the new Quietwriter and Wheelprinter electronic printers, and the Professional Graphics Display.

AutoCAD. *Thursday, March 14. Noon to 3 p.m.* Tearoom, 3rd Floor, Faculty Club. Short formal presentations will be given at 12:15 and 1:30, and a videotape will run throughout the afternoon.

AutoCAD is a general-purpose, two dimensional design and drafting aid that runs on more than fifteen computers including the IBM PC, PC-XT, and AT, and the DEC Rainbow. It is used in mechanical, civil, industrial and electrical engineering, and in architecture.

Macintosh Festival. *Wednesday & Thursday, March 20 & 21.* Room 285 McNeil. Apple technical representatives will be on campus for two days—one day will be reserved for students and the other for faculty and staff. They will emphasize the ease of use associated with the Macintosh and introduce a wide selection of third-party software packages that are just beginning to appear on the market.

A knowledgeable user equipped with the proper hardware and software can search online encyclopedias of legal, medical and general interest. Microcomputer users in search of support from user groups can take advantage of the wealth of "free" software available from electronic bulletin boards. Data, games, and public domain application software (word processing, database, etc.) can be legally transferred via microcomputers connected to modems and telephone lines.

In short, a few hundred dollars worth of hardware and software, plus an investment in time, can profit you by giving you access to a continually growing set of information.

Why NOT communicate?

The idea of having almost instantaneous access to a wealth of information is a powerful incentive for investing both time and money in communications capabilities. But it is important to realize that communicating can have additional expenses associated with it. Your time is valuable, and setting up a microcomputer to communicate can be very time-consuming. Not all software will work with all hardware and not all mainframe computers and electronic databases require the same software and hardware, causing confusion for the user.

There are other ongoing costs associated with communicating. Items such as sign-up fees, connect charges, and even printing costs can add up rapidly if you are online frequently for long periods of time. These are in addition to the costs for the hardware and software that enable your microcomputer to communicate. You have to weigh the potential advantages of communicating against these monetary and time costs.

What do I need to allow my computer to communicate?

- **A telephone line.** This is a standard telephone line, the same line you probably already have.
- **A modem.** It converts the digital signals that the computer uses to communicate into a form that can be sent over telephone lines. There is a wide variety of modems on the market, all with different prices and features.
- **Two cables.** One connects your telephone line to a modem. This is almost always included with the modem itself. The other connects the modem to the computer. This is sometimes included with the modem but may have to be ordered separately. If the modem-to-computer cable is not included with your modem, you may be in for a bit of hunting and confusion. Different computer and modem manufacturers seem to use different plugs, and the cable that will work with one computer and modem may not work with the next.
- **A communications port** for your computer. Some computers (i.e., the Macintosh and DEC Rainbow) have this as standard, while others (the IBM PC) may require additional hardware.
- **Communications software** for your computer. The software provides the instructions to the computer to allow it to act as a communicating device. Microcomputer communications software varies greatly in both price and features (See article on communications software.). Sometimes software is included with the computer, as with the DEC Rainbow, and other computers can use free or "user-supported" software to provide communications.

Hardware Considerations: Modems and Phone Lines

Dr. Jeff Seaman, Director, Microcomputer Services

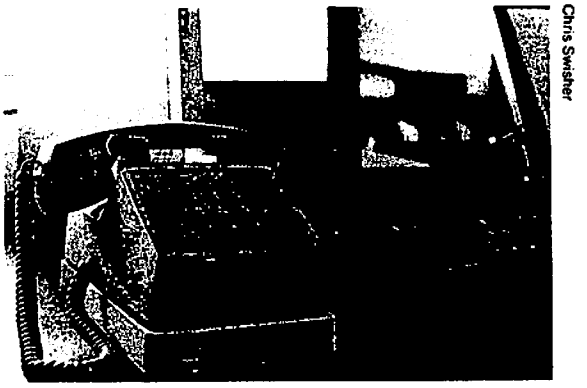
Lets begin with a short discussion of modems. The modem translates the computer's signals to a form that can be sent over telephone lines. At the other end of the telephone line another modem translates these telephone signals back into a form that the computer you are communicating with can understand. This process of translation of signals from computer form to telephone form is called *modulation* and the word *modem* comes from MOdulator-DEModulator. The selection of the proper modem for your purposes depends upon what features you require. Some things to look for in buying a modem are listed below.

Speed: The speed at which modems operate, known at the baud rate, determines how fast information is transferred. The two most common speeds, 300 baud and 1200 baud, correspond to transmission speeds of about 30 characters per second and 120 characters per second respectively. Newer modems operating at speeds of 2400 baud, twice the speed of current 1200-baud products, are now coming onto the market. However, until the various online services and campus mainframe computers begin to support 2400 baud dial-up operation, it is probably better to take a "wait and see" attitude toward these products. Otherwise you may be able to communicate at 2400 baud but have no one to communicate with. ***Recommendation:*** If you can afford it, buy a 1200 baud modem that also supports 300 baud communications. A 300 baud product can be a cost saver, but you may soon grow impatient with the slowness of communicating at 30 characters a second.

Autodial: Some modems can dial the phone under program control. Most good quality communications software packages now take advantage of this feature to allow single-keystroke dial and log-on to communications services. Autodial is a convenience and timesaver, but clearly not imperative for all users. However, autodial is becoming a *de facto* standard for modem manufacturers who are selling their products on the basis of price and features, so you will find it included in almost all modems on the market. ***Recommendation:*** Autodial is worth paying a higher price for a modem, but not a lot higher. Most modems now include it so you have little choice in the matter.

"Hayes" command set: The best selling and arguably one of the best constructed modems is manufactured by Hayes Microcomputer Products, Inc. Their "Smartmodem" line uses a set of commands for dialing and other functions that has become a *de facto* standard in the industry. Communications programs from a wide variety of vendors support these commands, and other modems manufacturers are now producing modems that use the same command set so that they will work with these programs. ***Recommendation:*** Buy a modem that supports the "Hayes command set". This will allow your modem to work with the largest variety of communications software.

Autoanswer: Autoanswer is a feature that allows unattended computer operation. The computer can be set up with appropriate software to answer the phone and respond to input from another computer coming in over the phone line. This allows remote operation of your computer and remote (and unattended) transfer of files. This feature is useful if you are setting up a bulletin board or have reason to access your own computer from a remote location, but for most users it is of little use. ***Recommendation:*** Like autodial, autoanswer is being packaged with almost all modems on the market today. It is useful for a small portion of those buying a modem and can be safely ignored by the rest. If you do have reason to use autoanswer, make sure the modem you purchase will support it.



Chris Swisher

Apple Modem. *The Apple 1200 baud and 300 baud modems look identical. Both fit under a standard telephone.*

Internal or external: A modem can be either internal (plugging directly into the internal mechanism of the computer) or external (connecting to the computer with a cable). The advantages of an internal design are that is makes less clutter on your desktop since it does not require a modem-to-computer cable, and, in some instances, such a modem is cheaper than an external modem. The disadvantages of internal modems are that they use up one (or more) of the computer's "expansion slots," they can be difficult to install, they use a lot of power and can tax a computer's power supply, and they will only work with one type of computer.

An external modem has the advantage that it can be connected to any number of computer types, so if you buy a new computer or have reason to use more than one computer, you can still use your existing modem. One disadvantage of external modems is that they require a communications port in the microcomputer so that the computer can transmit information from itself to the modem. The communications port is variously known as an *asyncronous communications adapter, a serial interface,* or an *RS-232 interface.* Without getting too technical, it is important to know that this interface is necessary for computer-telephone-modem communication. It is also important to know that most of the microcomputers sold at the Computer Shack and those supported by Microcomputer Services have this communications port built in. The Macintosh, Lisa, IBM-XT, and Rainbow machines all come equipped with this feature. The IBM PC must have this feature added on at nominal ($70) cost. ***Recommendation:*** Buy an external modem. The long term benefits of using one modem for a variety of computers generally outweigh the advantages of an internal design.

Direct connect or acoustic coupler: There are two ways that a modem can connect to the telephone line: by plugging directly into a telephone jack ("direct-connect") or by having rubber "cups" into which you place the telephone handset ("acoustic-coupled"). Most top-of-the-line modems being manufactured today are direct-connect

types as they provide a better connection between the modem and the phone line. The primary advantage of an acoustic-coupled modem is that those who travel a lot and occasionally attach modems to hotel phone lines rarely have access to plug-in phones, so the only way they have of connecting a modem is to place the handset into the acoustic cups. Acoustic modems rarely support communication speeds of greater than 300 baud. ***Recommendation:*** Buy a direct connect-modem.

Making the choice

There are a number of fine modems on the market. The market leader is the **Hayes Smartmodem** line. Hayes makes three modems that work with the computers sold through Computer Shack: 300 baud external, 300/1200 baud external, and 300/1200 baud internal for the IBM PC. All three are very good products, and Hayes provides a two-year warranty, far longer than the industry standard of ninety days. The primary drawback of the Hayes products is that they are expensive. Hayes products are not sold in the Computer Shack.

The **Apple** modems (300 baud external and 300/1200 baud external) provide a good alternative to the more expensive Hayes products. They have the same features as the Hayes products and will work with most of the same communications software. As a result of the University's being a member of the Apple University Consortium, the Apple modem is available at the Computer Shack at attractive prices ($175 for the 300 baud and $390 for the 300/1200 baud, both including cables for Apple computers). Both the Hayes and Apple modems include the modem-to-telephone-line cable as part of the package.

Anchor Automation makes a very low cost 300/1200 baud modem known as the **Volksmodem 12** (about $220). Like the Hayes and Apple products it is autodial, autoanswer, and supports the Hayes command set. It uses its own modem connector plug (unlike either the Apple or Hayes products), so you must use an Anchor Automation cable to connect your modem to the computer, and therein lies the problem. Anchor Automation markets a variety of cables designed to connect their modem to a wide variety of microcomputers. All of these cables are very short, so that it can be difficult to postion the modem on a desktop, and **in the case of the Macintosh, the cable doesn't work.** The plastic cable end on the Macintosh cable is too large to be plugged in. This can be corrected by removing the cable end (exposing the wire connections) and then attaching the exposed end to the computer. If this type of activitiy doesn't bother you, investigate the Volksmodem 12. It works well once you get it connected.

A wide variety of other modem manufacturers also sell modems for IBM, DEC, and Apple computers. Many of these come "bundled" with their own communications software.

The telephone line

You don't need a special telephone line to connect your modem, although you will need access to a modular phone jack if you are using a direct-connect modem. However, you won't be able to talk on the phone while you are using a modem. Either a touch tone or a standard rotary dial line will do. Modems with the autodial feature can dial on either type of phone line. The one feature that you should not have is "call waiting." This is the feature that you can buy from the phone company that will make a sound on your phone line when another caller is trying to reach you. If you have call waiting and another caller tries to reach you when you are using your modem, the sound will interfere with the data transmission.

Sharing a phone line between a modem and a phone

You might not want to share a telephone line between a modem and a regular telephone if the volume of phone calls and modem use is such that your single phone line is tied up all the time. In such cases, you may prefer a second telephone line. You must also be careful not to use an extension phone when the line is being used by the modem.

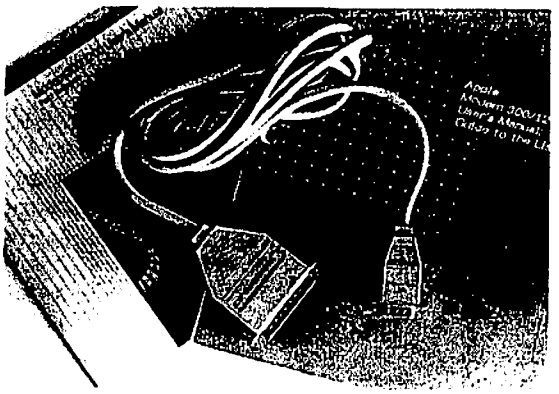
Connecting an Apple modem to the computer

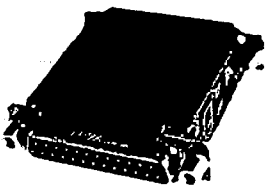
The process of connecting the modem to the computer is very simple if you own a Macintosh or a Lisa computer and purchase an Apple modem. The Apple modem comes in two boxes: one contains the modem itself and the other contains the "accessory kit." This second box is tailored to the Macintosh or to the Lisa computer. It contains the proper modem-to-computer cable for the Macintosh or for the Lisa as well as a reference book for the modem. If you own a Macintosh, order an Apple modem with a Macintosh accessory kit; if you own a Lisa, order the modem with a Lisa accessory kit. All the required cables will then be included.

The answer is not quite as simple if you own either an IBM PC (or PC-XT) or a DEC Rainbow computer and plan to use an Apple modem. Apple does not make IBM or DEC accessory kits. But all is not lost, for both the DEC Rainbow and the IBM PC family can use the Lisa accessory kit with one additional item—a gender changer (See picture). This item allows the end of the Lisa cable to plug into the Rainbow or IBM communications port.

If you are using another brand of modem, make sure that you have the correct cables for your computer because, as mentioned above, the modem-to-computer cable varies with both the modem and with the computer. Remember that some microcomputers, the IBM PC for example, do not come standard with a communications port, and this must be added.

Chris Swisher





***An Apple Modem Lisa Accessory Kit** containing a modem reference manual, a Lisa-to-modem cable, and an insert for the Lisa documentation. This kit alone connects an Apple Modem to a Lisa computer. With a **gender changer** (at right), it will connect an Apple modem to an IBM PC or DEC Rainbow computer. A Macintosh accessory kit is similar, except it omits the Lisa documentation and the cable is Macintosh-specific.*

Communications Software

Chris Swisher, Assistant Director, Microcomputer Services

Hardware is, of course, only part of any microcomputer system that will be used for communications. The communications software, that is, the instructions which allow the microcomputer and modem to operate, must also be considered carefully. This article discusses communications software for microcomputers, listing some of the caveats, and describing some of the available features. Keep in mind that the computer-specific recommendations are only general guidelines; you need to analyze your own needs carefully to select the best software for your particular requirements.

Microcomputer specificity

All microcomputer software, including communications software, is designed for a specific hardware and operating system environment. A program which works on a Macintosh, for example, will not operate on a DEC Rainbow. Programs which run on the DEC Rainbow may not execute on the IBM PC. Many communications programs are also designed with certain modems or types of modems in mind. Most modems mimic the DC Hayes Smartmodem, the current industry leader, to a greater or lesser extent. Therefore, you should generally select communications software which can either execute the Hayes command set or be programmed to execute a variety of modem command structures.

Host specificity

Just as software will not run on all microcomputers, different host systems (e.g., campus mainframe computers or dial-up database services) have differing requirements for communications. Some systems work best if the communications program can emulate a specific type of terminal. One system may support a file transfer protocol which differs from the protocol supported by another system that you use. The communications requirements of the system(s) that you plan to communicate with must be considered in selecting your communications software.

Features of Communications Software

There are three types of communications software features: those that any program must have to be useful (e.g., user-definable settings); those that, while not imperative, are very useful (e.g., file transfer); and those that are best classified as bells and whistles (i.e., not very useful at all). The following discussion begins with the most important and works its way down. Importance is always relative, and a feature that is not important for most people can be necessary for your application.

User-definable settings. Different computers that you will communicate with have different requirements regarding baud rates, data bits, stop bits, parity, and duplex. Your software must allow you to alter and store these settings.

Macro capability. Macros are short keystroke sequences, or single keystrokes, that cause the software to issue a longer, more complex series of commands. For example, a macro can be defined to issue a login sequence, user ID, and password with a single keystroke. Keyboard macros can also be used to store often-repeated system command sequences, such as those used to issue electronic mail, or to access bulletin boards and online databases.

Terminal emulation. Some terminals have special purpose keys and advanced functions, like text highlighting and full-screen cursor addressing. The DEC VT100, for example, uses a numeric keypad that contains cursor control keys and special function keys. If your host computer can recognize the features of such a terminal, you may want to choose a communications package that will enable your microcomputer to do terminal emulation. Some host systems require any microcomputer communicating with it to emulate a specific terminal type.

File transfer protocols. As discussed in the article on file transfer, there is no single answer to the question of how best to get information from one computer to another. There are a variety of methods, ranging in complexity and function, all with their own advantages and disadvantages. The file transfer capability that you require depends upon the type of communications that you intend to do. What follows is a brief description of file transfer capabilities normally found in microcomputer communications software.

Data Capture. The simplest way to transfer a file from one computer to another is to create a disk file of an online transaction. If you begin recording your session upon logon and close your file after logoff, you will have stored the product of your interaction on a disk in machine-readable form. This process is not much different than printing your session, except that it can be faster (printers can be slow), and the resulting file can be edited. Most communications software packages provide some form of data capture capability.

X-On X-Off. As described in the article on file transfer, the X-On X-Off protocol allows one computer, when it must temporarily stop receiving information, to send a "control" character to the other computer to halt transmission. When the computer is ready to begin, after it has stored a block of text to the disk, for example, it sends another "control" character to resume transmission.

XMODEM, Kermit, YTERM, and others. Compiled programs, binary files, or files containing graphic information cannot be transmitted using data-capture or X-On X-Off methods, nor do these simple methods provide any guarantees of accuracy or freedom from data loss. Two public domain error-checking file transfer protocols that handle such files and programs and are widely used on microcomputers are XMODEM and Kermit (Kermit is not an acronym and is used by permission of Henson Associates).

YTERM, a communications program that provides both protocol file transfers and terminal emulation, runs on the IBM PC family of personal computers and is available on campus at nominal cost. Some commercial communications programs support their own file transfer protocols. Crosstalk and Hayes Smartcom II are examples of communications software with proprietary file transfer protocols (although Crosstalk also supports XMODEM). These protocols, like all file transfer protocols, are only compatible with other computers using the same protocol.

Autodial. If your modem has the capability of dialing a telephone, your communications software can exploit this feature by storing and automatically dialing the telephone numbers of computer systems with which you wish to communicate.

Auto-redial. Many public access electronic bulletin boards will be busy when you attempt to make contact; similarly, the limited number of dial-up ports on the mainframe you are using may make it difficult to gain entrance to the system. A communications program that supports auto-redial will, at your request, dial the same number again.

Autoanswer. If you want others to contact your computer or if you will be calling your office machine from home, you'll want communications software which will allow you to set up your modem to expect a call and answer the phone. Some autoanswer software can be set up to allow unattended file transfer between microcomputers.

Recommendations

Macintosh. Apple's commercial product, **Macterminal**, supports the Hayes command set, has user-definable communication parameters, terminal emulation, XMODEM file transfer, autodial, and autoanswer. It does not have macro capability. A user supported program,

Red Ryder, is a little harder to use and omits terminal emulation and autoanswer, but is available free with the understanding that the satisfied user will send a nominal amount to the program's author. However, Red Ryder is an MS BASIC program and requires that you have Microsoft BASIC to run it. Thus, Red Ryder is lower in cost only if you already own Microsoft BASIC.

IBM PC and PC-XT. Two commercial products, **Crosstalk** and **Smartcom II**, support the Hayes command set, have user-definable communication parameters, macro capability, terminal emulation (Crosstalk only), proprietary file transfer (plus XMODEM for Crosstalk), autodial, and autoanswer. Crosstalk provides more functions, but Smartcom is easier to learn (although it will not always work with the Apple modem). Two lower cost alternatives also exist: YTERM and PC-Talk. YTERM is available at nominal cost on campus; PC-Talk is user supported (free with a suggested contribution). PC-TALK lacks any terminal emulation capability, and the documentation for YTERM is far below that of the commercial products, but, depending upon your needs, they may work for you. However, if you are communicating with the FAS/DRL computer facility, YTERM is the desired package and staff support is available.

DEC Rainbow. The communications program **LCTerm**, available at no cost, permits direct control of the modem, auto logon and macro capability, as well as VT100 terminal emulation. It does not have autodial or autoanswer. The only "Digital Classified" general-purpose communications program for the DEC Rainbow is **PolyCom**. This package, which comes with versions for both CP/M and MS-DOS, can be ordered through the Computer Shack.

Sample Communications Configurations

Apple Macintosh

Modem	Apple 1200 baud
Cable	Macintosh modem accessory kit
Software	Apple Macterminal (commercial product)
	Red Ryder (publicly available "freeware")

IBM PC and IBM PC-XT

Modem	Apple 1200 baud
Cable	Lisa modem accessory kit; female-to-female gender changer
Software	Crosstalk (commercial product)
	YTERM (low cost product)
	PC-Talk (publicly available "freeware")

N.B.—IBM PC, but not IBM PC-XT, requires the addition of a communications port.

DEC Rainbow

Modem	Apple 1200 baud
Cable	Lisa modem accessory kit; female-to female gender changer
Software	LCTerm (provided free of charge)
	PolyCom (commercial product)

Communications Alphabet Soup

Trying to read a modem operations manual or an ad for a communications package can produce trauma in the best of us. The range of terms seems never ending. Listed here are a few of the most common terms you will encounter in computer communications with a brief definition (more or less in plain English) of what each term means.

ASCII—*A*merican *S*tandard *C*ode for *I*nformation *Ex*change. A coding standard which assigns seven bits to all letters, numbers, symbols, and special control codes. Most communications via modem encode characters in ASCII, along with a start bit (to signal that a character is about to be sent), a stop bit (saying the character has been sent), and a parity bit (to check for transmission accuracy) for each character, for a total of ten bits per character transmitted.

Baud—A measure of the rate at which data is transmitted. A 300 baud modem will transmit data at 300 bits per second. Since most transmission methods use 10 bits per character, 300 baud means that data is being transmitted at 30 characters per second.

Bell 103—This term refers to a standard for communicating in the United States at 0 to 300 baud. The Apple 300 baud modem is a device that conforms to the Bell 103 standard.

Bell 212A—This is a 1200 baud communications standard in the United States. The Apple 1200 baud modem, the Hayes Smartmodem 1200, and the Volksmodem 12 all operate using the Bell 212A system.

Bit—Computer information is transmitted by a modem as a series of bits. Each bit is an On or Off pulse, and a series of bits is used to represent a single character.

CCITT V22—An international standard for communications. Most of the new 2400 baud modems being produced are CCITT V22 devices.

Duplex—Used with considerable imprecision to designate: 1) the mechanism by which characters are echoed to the screen—as they are typed (half-duplex) or from the receiving end (full-duplex)—or 2) whether information can flow in two directions at once (full-duplex), as from a terminal to a computer and vice-versa, or only in one direction at a time (half-duplex).

Parity—This refers to a simple error-checking mechanism in which the sum of all the bits transmitted will be either odd or even depending upon the convention used. If the bits are supposed to sum to an odd number, for example, and they do not, the receiving computer will signal an error. Parity can be odd, even, mark, space, or none. Only the first two of these actually perform any error checking. The problem with parity error checking is that other than signaling an error on the screen, it does not cause any action to be taken to correct the error.

Protocol—A predefined way of transferring data between computers. The protocol specifies how data will be transmitted, how errors will be detected, and what will be done to correct errors.

RJ11C—The technical name for the common modular phone jack.

RS 232C—The name of the communications port in a computer that is used to connect to a modem. The port should conform to the RS 232C standard, which includes specifications for the electrical signals (so the modem knows what to expect from the computer and vice versa) and details on the shape and size of the plug used. Unfortunately, many computer manufacturers have ignored some of the details of this standard, so that there is no one standard modem cable, but rather different cables for different computers. An RS 232C port is sometimes known by other names (depending on who is writing the ad copy). These are Communications Port, Asynchronous Communications Port, and Serial Interface.

RS 422—An interface standard similar to RS 232C. Most computers use this type of port as if it were an RS 232C connection (i.e., the Macintosh).

TTY—Teletype. An early hard-copy terminal that lacked the sophisticated screen handling features generally associated with terminals such as the DEC VT100. Many microcomputers can emulate the teletype terminal (a TTY). This represents the lowest level of terminal emulation capability.

VA-3400—A 1200 baud communications standard designed by Racal-Vadic. This is an alternative to the Bell 212A standard described above. Several computers on campus support VA-3400, but it is not as widely used as is the Bell 212A standard.

The Exciting (and Confusing) World of File Transfer

Dr. Jeff Seaman, Director, Microcomputer Services

File transfer is the process of communicating a body of data from one computer to another. There are a variety of ways of going about this, some more complicated than others. In order to understand why a wide variety of incompatible procedures exist, we need to understand the problems inherent in transferring files that these procedures are aimed at correcting. Note that none of the procedures described here is optimal. All have some problems in reliability, speed, or ease of use, and some may not work at all with a particular computer. Different mainframe computers also require different procedures. The perfect file transfer procedure has yet to be invented.

"Dumb" file transfer

Information can be transferred from one computer to another. This means, for example, that you could transfer a text file from a mainframe computer to a microcomputer communicating with that mainframe as follows. You would tell the mainframe to type the file (list the contents of the file on your microcomputer screen). At the same time you would tell the communications software for the microcomputer to save the information being displayed on the screen in a file on the microcomputer's diskette. When the entire file has been displayed on the screen, you would tell the microcomputer's communications software to stop saving the screen information and to close the file. The end result of this process would be that a file on the microcomputer diskette would now contain what was displayed on the screen, and the mainframe computer file would have been transferred to the microcomputer. The question then arises: What's the problem with this approach?

Problems and file transfer protocols

Unfortunately, there are problems with this approach, and file transfer protocols exist to correct them. The first problem is that **not all files can be listed on a screen.** An example of this type of "non-listable" file is a program file. If you have ever listed a compiled program file on the terminal screen, you will have seen a variety of strange characters, heard the terminal's bell ring a few times, and not have received any intelligible information. A file transfer protocol can transfer this type of file by first converting it into a form that can be faithfully sent over a communications channel and then reconverting it back to its original form at the other end.

Even files that can be listed on the screen may not always be able to be transferred correctly without using a file transfer protocol. The transmitting computer may format the file so that it appears correct, but the inclusion of too many or too few carriage returns and/or linefeeds, or the use of direct cursor addressing, may make the resulting file unusable for the microcomputer.

Transferring files without a protocol can pose a problem in that telephone lines (and other communication channels) can, and do, introduce errors into the transmission. These errors may or may not be a problem. A few random errors (e.g., an *A* changed to a *K*) in a text file that you plan to edit after it has been transferred may not bother you, since you can correct them as you edit the file. However, an error of only one character in a file of program code may render that program useless. Therefore, error-free transfer is sometimes imperative.

Another problem with the so-called "dumb" file-transfer method occurs at times when the information is being sent by one computer faster than the receiving computer can process it. In such cases the receiving computer needs a mechanism to tell the sending computer to slow down or to stop. **Information can be lost** if the sending computer continues to send out the file when the receiving computer is no longer able to process the information.

A simple protocol: X-on and X-off

The X-on and X-off protocol (named after the control signals that are send from one computer to another) allows one computer to tell another computer when it is able to receive information. When the receiving computer must temporarily stop receiving information, it sends a control character (an "X-off") to the sending computer. The sending computer then halts transmission until the receiving computer sends another control character (an "X-on") confirming that it is again ready to receive information. This method does not include any error-checking methods, nor does it, by itself, help in sending files that cannot be listed on the screen.

How more sophisticated file transfer protocols work

File transfer protocols try to achieve error-free communications by dividing each file up into many small parts and sending the parts one at a time along with an error-checking code. The receiving end checks each part of the file against the error-checking code and sends a message back to the other computer. This message says either, "I received it and it's O.K.; send the next part." or "There's an error in what you just sent; send it again." The part of the file with an error in it is then re-sent.

File transfer protocols differ in how they divide a file into parts, how they check for errors, and how they handle an error when they find one. For a file transfer protocol to work, the programs at the two ends of the communications channel must **match exactly.** Thus, you cannot send a file from a computer using Kermit (a protocol in use on campus) and receive it correctly using YTERM (another protocol in use on campus) or XMODEM (yet another file transfer protocol). The same protocol must be operating at both the sending and the receiving end for the process to work.

Additional problems

File transfer protocols don't handle all problems in transferring files. The file transfer protocol can transmit the information without errors from one computer to another, but the information still must be in the correct form for the other computer to be able to make use of it. For example, you may have produced a set of budget figures on a mainframe computer that you wish to transfer to a microcomputer, where you can work with them using a spreadsheet program. However, "$1,234.56" (with dollar sign, comma, and decimal point) will give indigestion to a spreadsheet program that can't handle dollar signs.

Nor does the transfer of files always allow all information present in a file to be transferred. For example, a word processing file can be transferred from one computer to another computer which uses a different word processor if both word processors support the same file formats. However, the format that both word processors will have in common is generally a "text only" format, where information on page layout and such text formatting attributes—as bold faced-text and underlining are lost. Thus, the file's text can be transferred, but the layout and formatting cannot be.

How to cope

The situation is not as bleak as these problems may make it sound. Several mainframes on campus and some of the time-sharing information services support file transfer protocols that are available at little or no cost for microcomputers. Communications programs exist for mainframe and microcomputers that transmit most, if not all, of the important information contained within the file. **The key is to determine what file transfer mechanisms are supported by the computer that you wish to communicate with.** Only if you know this can you set up your own microcomputer to best communicate with this other computer.

RANDOM THOUGHTS

by Terry Tufts

COPY PROTECTION WHO TOLLS THE BELL FOR THEE??

Micropro, the developers of Wordstar, the worlds most widely used wordprocessor, have decided to abandon copy protection because of all the compatability problems it has caused and in turn the headaches it has caused their customer service. Perhaps they have discovered what we users have taken as obvious. The next time you have a problem caused by copy protection, don't ignore it call the developers and let him know and maybe he will become a convert as well.

HARD DISKS DRIVES

Now that we can buy a 10 megabyte hard disk drive for about the cost of two Apple floppy disk drives, will the software developers be inundated with questions of moving protected software to a hard disk?

WOZ DEPARTS

Steve Wozniak has once again taken leave of Apple Inc. One has to wonder if it is his only way left to protest the lack of corporate interest or foresight in keeping the Apple II from becoming technically obsolete. Perhaps an Apple II, equipped with a 16 bit 6502 equivalent, would have too much power and seduce away buyers from the Mac line. Is Jobs protecting his baby from internal competition, much the same way they did with the Apple III? Are the corporate wizards at Apple once again making the mistake of personally identifying with a product? If the Apple IIe is more popular than the IIc, is this a blow to someones personal prestige/image? Are decisions made because of personal prestige or on the basis of what the public wants? IBM admitted that they made mistakes with the IBM PC jr and I don't see anyone walking around beating his breast and feeling inferior as a result.

THE COMING FALL OUT

We are in the middle of the free enterprise battleground and the end users may be seeing relative best buys that may not be seen again in a long time. There are too many manufactures of floppy disks in the market place. Too low prices are a result of the weakest manufacturers offering rock bottom prices in a desperate bid to stay in business. These will inevitably fail and the stronger ones will raise their prices to a more reasonable margin of profit. This same process is happening with floppy disk and hard disk drives. On the printer front, the letter quality impact printers are being pressured from below by the near letter quality dot matrix prirters, and from the top by the new inexpensive laser printers. This coupled with an over abundance of printer manufacturers is causing prices for all printers to plummet. The letter quality printers are feeling the greatest pressure and their prices are dropping the fastest.

Shugart the floppy/hard disk division of Xerox is being shut down and there are signs that the same may happen to their Diablo printer division for much the same reasons. In the meantime unprecedented bargains are now available, so enjoy them while the market is still adjusting itself to the factors of supply and demand.

WHO WOULD HAVE THOUGH IT STILL COULD HAPPEN??

Lotus' 1 2 3, has been the darling the computer world. Mitch Kapoor has been elevated to the status of computer god as its developer. His pronouncements are listened to with great reverence (like all successful promoters he is not bashful). Did you know that Appleworks is outselling Lotus 1 2 3 and it is used with the lowly Apple II family of computers. Quick! Who can tell me who is the developer of Appleworks??

MACINTOSH COMPLAINT

I often hear complaints that the Macintosh disk drives are too slow. In fact they rotate faster than any others. Its just that all the information they have to save is in graphic form. This means that more information must be stored and more must be read back into memory when the information is recovered. While this bit mapping yields excellent looking graphic screens it means that comparably more information must be manipulated. One must wonder if there are not many situations where character generators would not be more appropriate especially where text is the only information required? Would this option have been provided by some enterprising enterpreneur if the Mac was an open system with expansion capability?

HAVE YOU SEEN

Have you seen the Colby Macintosh. The Colby is a Macintosh repackaged in a new case. It reminds one somewhat of the Kaypro/Compaq package. The Keyboard stores in front of the system for easy transportability. A very impressive looking package.

RUMORS

Trade journals are predicting that IBM will release an upgraded PC. IBM will drop the original PC price by 20%. If this occurs Apple will see more pressures to drop its prices. Now that Apple is overstocked and has had to furlough some manufacturing employees will we see Apple adjusting its prices downwards?

TYPESETTING INDUSTRY

Woe to those that are not paying attention to technology changes. The output from the so called laser printers is extremely impressive and is going to take away many of the jobs that formerly went to typesetters. The speed and versatility of a Mac tied to the Apple Laser writer will more than make up for the only slightly lower quality that is inherent in the copier technology being used in this type of printer. The switch to the laser printer technology is going to be so fast that many unsuspecting typesetters are going to think they were hit by runaway freight train. Apple sells their printer for about $7000 which is about double its nearest competitor that uses the same basic print engine. Apparently the difference in features is so great that customers are making comparisons and then lining up to buy the Apple printer. The response is so good that is reported Apple has already lined up all the sales it expected to make for the year and the machine has not even been officially released.

DOES APPLE SEE WHAT WE SEE???

Apple is making very aggressive noises about defending its traditional Apple II market against any trespassers. They point out that this is still the major source of their revenue. Lets hope that they can back up their boast with new technologies soon. By present computer standards the II is a dinosaur using positively ancient technology. Its generally believed that Apple will not announce any new hardware improvements until 1986. Lets hope that they didn't wait a year too long to get off the stick.

Information Systems

Part 1. What are they?

by jim Kelly

With the increasing availability of computers, and some new technics being used and developed by programmers, which allow for large amounts of information to be stored and accessed quickly from floppy disks the beginning of a very interesting period for personal computers is beginning.

Informational systems are generally in opposition to Data Base systems, which for the most part are too general, many time too complex to use, and have no information preloaded into them. Informational System software tends to be fairly simple to use, and are preloaded with a large amount of information ready for the user to make use of. Some Informational System software even has the ability to allow the user to enter additional information, beyond what is already preloaded (many will go this way).

The process of developing an information system is rather simple conceptually, but in reality takes a great deal of time and effort. To design an informational System the designer first asks himself "If I were a person in the target area, what vocabulary would I use in that area?" The designer should make a list of as many terms and ideas they know of that they know are used in the target area. And then organize the list so that it is easy to locate individual terms or ideas - alphabetizing is a quick and easy method.

Now the designer talks with others who are interested in the target area (and who might become his market!). They listen to what they have to say on the subject, but are careful to listen only for the terms and ideas they frequently hear used. These frequently referenced terms are added to the list of terms and ideas. Similarly written materials are checked.

This initial activity of making a vocabulary list, commonly referred to as a list of descriptors is an extremely important first step in developing a good information system. If the vocabulary list is not representative of the terms and ideas used in the target area a lot of future work is going to go to waste. The list of descriptors is the core of an information system.

The terms and ideas in the descriptor list should make up 60-80% of the key vocabulary items that anyone interested in the target area would normally use. Going below 60% the designer risks being too elementary and not very useful; above 80% the designer risks having too slow an access program and having to charge a high price for the system.

If at this point the designer halted his efforts of building an information system and just designed an information system around the list of descriptors, he would of course, have one of the most successful information system programs now available - the Speller programs. In this case the target area is the English language; and the list of descriptors happens to be a list of the most frequently used English language words (a descriptor list of some 30,000 to 80,000 terms).

The next level of information system sophistication is to tie information to the terms. Again the designer, of the information system has to rely on their feelings of what is important; what others reference frequently in the target area and what appears frequently in written materials to make a judgment on what information is to be put into the system. Several types of information system can be developed from this point.

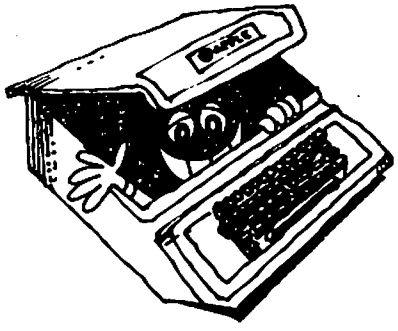
One simple type of information system, is a pointer information system. It is basically an index. It says that this book or publication which it shows on the screen, has the desired information on or starting on page number so and so. Terry Tufts, during the January meeting demonstrated such a pointer information system designed to locate articles in computer magazines. Most public libraries in this area use this type of information system, to help users locate books.

Another information system is of the type that can provide information in and of itself. For instance, there are rumors that sometime during this year software developers who turn out the spellers are going to turn out a grammar checking program. Taking basically the speller's list of terms and adding the information that this term is usually a noun, verb, preposition or what ever; and then having the program check between punctuation marks for proper grammatical relationships between the words.

A third type combines the two, to provide information itself and then to point to specific resources either to confirm the information or to provide additional information.

These are the four basic types of informational systems.

In part 2 we will look at some of the programming considerations for the different types of information systems: direct accessing or category accessing.



BOOK REVIEW

by Terry Tufts

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*
* THE SELF-PUBLISHING MANUAL *
*
* BY DAN POYNTER *
*
* Published by PARA PUBLISHING *
* Post Office Box 4232 *
* Santa Clara, Ca 93103 *
* $14.95 *
*
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Have you ever thought of writing a book or novel? Have you ever wondered what a writer earns from writing a book? Well here is the book that will give you these answers and many more. Amongst others you will find out how the publishing business works, the typical publishing contracts and why more people are becoming their own publishers.

This is a complete do-it-yourself book for anyone who wants to publish their own books. It gives you detailed step-by-step instructions on how to become your own publisher. Included are all the resources that the author has collected since he first set out to publish his first book.

Don't think this book is only for those wishing to do their own publishing. While exploring and discussing the pros and cons of self publishing the author gives many insights into the whole publishing business and tips on maximizing your book sales whether you self publish or use an existing publisher.

Many books of this type are short on information and large on filler and cutesy illustrations. The author doesn't cheat you by promising more than he can deliver. No promising you more, by dangling additional books in front of you on the same subject that you must have. The wrting style is plain, direct, and easily read. The author reduces any technical terms into easy to understand terms and never leaves you wondering what he is talking about. It is thoroughly readable and you are left with the feeling that if you follow the authors formula you can't help to be a success. I enjoyed the book and know it will find a valued place in my library as a much used reference book.

The book in detail: Chapter 1-Your Publishing Options, Why You Must Self-publish, reviews publishing options, big publishing firms, small presses, tiny press, vnity, textbook publishers and university presses. Literary agents, self publishing options.

Chapter 2-Writing Your Book, How to Generate Saleable Material. Picking a subject, fiction and nonfiction, write it yourself, time, write your ad before you write your book, research, copyrights, organizing material, writing style, help:commissioned writing, co-authorship, republishing articles, negotiating and contracting with authors, advances against royalties, flat fees or royalties and parts of a book.

Chapter 3-Starting Your Own Publishing Company. Forms of business's, useful publications, company name, logo, place of business, stationery, telphone, legal requirements, taxes, record keeping and raising the money you need.

Chapter 4-Printing Your Book, Materials-Design-Printing. Printing processes, book design, type style, illustrations, color, paper, selecting printers-request for quotation forms.

Chapter 5-Announcing Your New Book, Telling the World You Are An Author and A Publisher-Getting Listed. The ISBN system, Universal Product Code, Standard Address Number, Advanced Book Information, cataloging in publication, International Standard Book Number, Library of Congress Catalog Card, Copyright, Cumulative Book Index and many other resources.

Chapter 6-What is Your Book Worth? Prices, discounts, terms, collecions and returns.

Chapter 7-Promoting Your Book. Making the public aware of your book without spending for advertising.

Chapter 8-Who will buy your book? Finding customers (markets). Methods of distribution.

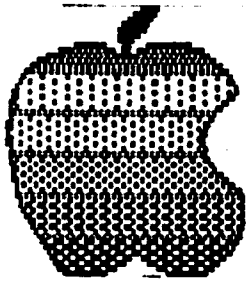
Chapter 9-Selling Your Book, Reaching Your Customers Through Advertising. Ad copy, advertising agencies, your brochure, direct mail, mailing lists, selling your mailing list, postage, circulars, direct mail letter, piggyback promotion and other techniques.

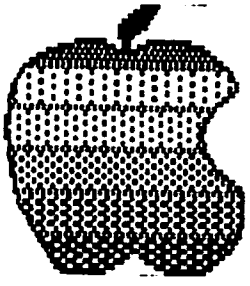
Chapter 10-Distribution, Getting Your Book to Market. Mail order, rules, order processing, complementary copies, book storage, inventory control, processing returns and fulfillment houses.

Chapter 11-Computers and Book Publishing-using computers to write your book and control your business.

Chapter 12-Coping With Being a Published Author or What Do I Do Now?

Appendix-Your Books Calendar, Resouces:books, books on writing, printing, publishing, marketing,distribution, magazines for author-publishers, newletters for authors and publishers, pamphlets and reports of interest to authors and publishers, professional organizations, book wholesalers and distributors, chain bookstores,exporters, book printers, graphics and printing supplies, office supplies, mailing lists, book publicists, book fair exhibiting services, courses, conferences and seminars.





UNCLASSIFIED ADS

FOR SALE

New Apple II User Guides by Lon Poole copyright 1981. List $17.95 reduced to $10.00 for a limited time only. Call Sky Findlay at 394-8497.

FOR SALE: Two used Apple II disk drives made by Apple Computer, Inc. In excellent condition. Full height $150 each. Two Corvus hard disk controllers and cables- best offer. Call Skip Neiburger at 223-1689 after 9 PM.

FOR SALE

Apple III 256K, 2 disk drives, Apple dot matrix printer. Much software. $2000. Call 426-7088 days, 382-7888 evenings, Tracy.

FOR SALE

Peachtree Accounting, accounts receivable, accounts payable, inventory, general ledger. Total of 12 disks, 4 manuals $100. Call B. Dehinten 998-8742.

FOR SALE

Apple II+ Compatible (100%), 16K card	$250
Monitor	$ 50
Microsoft Z-80 card	$ 50
Shugart Drives with cont. card	$150
C. Itoh 8510 printer w Microtec cd	$300
Videx 80 col card	$ 50

Must buy computer, some software included. Call Frank Allen 475-8346 evenings, weekends.

INTERESTING BITS

by Chris Tufts

Maxim Software Company has been marketing an investment program called "The Investor's Advisor" for the price of $84.50. The company is now making the program available to user groups at the the new low price of only $24.50 plus $2.50 for shipping and handling. The program operates an investment system which not only returns greater than average profits but conserves cash by means of a built-in formulae. It has been tried and it works successfully for many investors. The investment starts as a 50/50 split between quality stocks and/or mutual funds, and money market funds. It is a market timing system that maintains a particular ratio between stocks and money market funds. It tells you when to buy and when to sell and exactly how much. "The Investor's Advisor" when asked, will tell you precisely what to do. All you have to do each month, is enter two numbers from your keyboard. The program is tax-deductible. It is not copy protected, so backups can be made. However, it is a copywrighted program and purchasers should only make archival copies. For further information or to order, contact: Maxim Software Company, 10 Violante Court, Eatontown, NJ 07724. (201) 542-0228. satisfaction guaranteed or your money will be refunded.

Andent, Inc. is offering the following programs for the Apple II and IIe computers on the Professional Disk. This disk includes an "Alcoholic Test" form which you and your friends/relatives may test for traits of alcoholism. "Heart Attack" can medically test your chances for heart problems. "Interest Print" will help you compute and bill interest on your accounts due. "Sublim" will rapidly flash various messages on the monitor screen: viewers can be influenced on a subliminal sub-conscious level. The "Label Maker" is a program that will allow the user to easily print any number of labels in any configuration. This disk is unlocked and can be copied for back-up purposes. It is user definable and the programs can be listed and changed for your own modification. The cost of this disk is $20. For further information contact Andent, Inc., 1000 North Avenue, Waukegan, IL 60085 (312) 223-5077.

Andent is also offering an Education disk consisting of five programs useful in teaching students how to read scientific instruments. Andent's ruler, Graduated cylinder, Beam Balance, and Analog meter are high resolution simulations of the metric scales for these instruments. These programs quiz the students. Responses are recorded and corrected automatically. Andent's Flash*cards is a flashcard simulator. This easy-to-use program allows you to create, store, edit, mix, delete, reverse, and sort double sided electronic cards. Incorrect answers can be asked again. The disk is for Apple II+, IIe, IIc computers and requires a minimum of 48K RAM and one disk drive DOS 3.3. The price is $29.95. For further information contact: Andent, Inc., 1000 North Avenue, Waukegan, IL 60085 (312) 223-5077.

MacChoice, a new decision-making software program for Apple Computer's Macintosh, is now available from Superex Business Software for $49.95. MacChoice, "the logical decision-maker", lets the user compare anything from types of cars and vacation spots to stocks and bonds. MacChoice accommodates two, three or four items simultaneously, and lets the user rate them in as many as 20 categories. The user picks the categories in order of importance and then rates each item in each category. MacChoice tabulates the ratings and displays the results in a graphic bar chart. The chart compares the choices and indicates the most logical decision based on the ratings given. An update disk is available with purchase of MacChoice plus $10 service and handling charge. For more information, please contact Superex Business Software, 151 Ludlow Street, Yonkers, NY 10705; (800) 862-8800.

The Online Gardener is a newsletter devoted to microcomputer applications in the home garden. It is published four times a year. Each issue brings you feature articles on a variety of computer/garden topics along with news, new products and software reviews. In addition, interviews with experts knowledgeable in the field will keep you up to date on the the latest developments and trends. Topics in future issues include database management applications in the garden, computer garden planning services, an advance look at Ortho's "Computerized Gardening" software program, and more. A one year subscription to The Online Gardener is $8. write The Online Gardener, 1287 McLendon Ave., Atlanta, GA 30307.

EDITORS NOTE:

HAS ANYONE GOT ANY SPCIALIZED INFORMATION TO HELP EITHER OF THE TWO WRITERS????

DO WE HAVE ANYONE INTERESTED IN FORMING A SPECIAL INTEREST GROUP TO APPLY COMPUTERS TO HELP OTHERS WITH SPECIAL NEEDS? PLEASE CONTACT ME AND I WILL TRY TO GET A GROUP TOGETHER.

Terry Tufts

Lutheran General Hospital
Occupational Therapy Department
1775 W. Dempster Street
Park Ridge, Illinois 60068
(312) 696-5597

Northern Il. Apple Users Group
1271 W. Dundee Rd.
Buffalo Grove, Il. 60090

Dear Computer User:

Our Occupational Therapy Department is researching the use of a computer as a treatment modality. We service acute and day hospital psychiatric populations, inpatient and outpatient physically disabled persons, including a 36 bed rehabilitation unit and pediatrics.

We would appreciate any information you could share with us regarding the use of a computer with these populations. Areas of interest might be word processing, cognitive retraining, vocational training, problem solving and perceptual motor skills or any other areas.

Any information or references pertaining to program guidelines, considerations in selecting a computer for patient treatment and descriptive information on software would be most appreciated.

Thank you for your assistance.

Sincerely,

Jennifer Lubarsky, OTR

Jennifer Lubarsky

Sights Unlimited

Date February 26, 1985

To; Northern Illinois Apple
Users Group

Re; Apple manuals

Just a short note of inquiry.
I am a blind Apple user. I am one of the leaders of a support group for the visually impaired. I use my Apple 2E for my personal and the groups record keeping. I like it very much, it makes things especially easier for me. Such as corresponding like I am doing now. Because I have an Echo 2 speech synthesizer which enables me to hear what I am typing so I donot have to worry about mishitting the keys. I would also like to eventually do some programming. But what I would like to ask at this time is, do you know of any places that have Apple manuals on cassette?

I am eager to hear back from you. Thanks in advance for any help that you can supply.

Sincerely,
Joseph Kuster
1290 Elizabeth
Crete, IL 60417

APPLE

SOFTWARE REVIEW: AppleWorks

by Larry Fox

Summary

Publisher:	Apple Computer, Inc. 20525 Mariani Avenue Cupertino, CA 95014 (408) 996-1010
Type of Program:	Combined word processor, spreadsheet and database
Copy Protection:	Copyable by CopyA
System Requirements:	Apple IIe or IIc with 80 column card Thunderclock is optional
Price:	$195.00
Rating:	3.5 out of 4.0

Contrary to the reaction of Peter McWilliams and the reviewer in InfoWorld, this program has had a strong, positive reaction on me. In fact, I have finally traded in my II Plus for a IIe in order to run this program (AppleWorks will not run on a II or II Plus, nor does Apple have any intention of making such a version available). I have implemented another, non-standard change as well; I purchased an Applied Engineering Memory Master II 128k RAM extended 80 column card and obtained their program to upgrade the AppleWorks disk to utilize all of the 192K of RAM I now have in my Apple IIe. You can run AppleWorks with a standard 80 column card, but I would highly recommend at least a traditional extended 80 column card with the additional 64k of RAM (128k total).

AppleWorks is supplied with a boot and a program disk. Two Tutorial Disks are also included. A Tutorial Manual is provided and an extensive Reference Manual which has a tear out pocket reference card make up the rest of the purchase package. You are advised to back up your boot and program disk. While these are ProDos based disks, they can be copied with the traditional CopyA program.

AppleWorks is an integrated software program. This is the beginning of what a computer can really do for you. After having spent a half a dozen years collecting programs which each performed its own single function and which usually would not interface to other programs, I am a happy convert to the integrated approach. While this program does not satisfy all of my needs, it makes a sufficient move in the right direction that I can heartily recommend it. It also handsomely outperforms the famous 1-2-3 made for that other computer.

The tutorial disks are a very good introduction to the program. The author, Gary Listner, went to considerable effort to make the commands between the three main functions of AppleWorks compatible. Those who are familiar with QuickFile will feel at home with AppleWorks. It is

more of an effort for those who have used AppleWriter II. A limited help list is available from any of the programs (but not the menus) by pressing the Open-Apple key and the "?" key. The reference manual is not designed as a text (you should use the Tutorial book for that); it is a reference manual. Its main shortcoming is an inadequately cross-referenced index. I found it necessary to look under three or four headings to find what I was looking for on more than one occasion. In a few instances, I then found the explanation difficult to follow. This was especially true of the section on page numbering. However, with some experimentation, you can get everything to work.

When you are ready to use the program, you must first use the boot disk. After this has loaded, you change to the program disk. Once that disk has loaded, you are asked to update the current date. If you have installed a Thunderclock card, this is done automatically for you. File are saved with the last modification date. The creation date, however, is not accessible.

Files can be accessed from other sources or created "from scratch". The Spreadsheet function will accept DIF files or ASCII files. I have converted several files from my A.P.P.L.E. The Spreadsheet program, but I had to go to my Apple dealer to obtain an updated AppleWorks program in order to accomplish this (it is interesting to note that the latest version of AppleWorks is on a ProDOS Version 1.1.1 disk).

The word processing function is a cursor driven full screen editor. Two cursors are available: one is a blinking rectangle which functions in an insert mode. The other is a blinking underscore which functions in a strike over mode. The Open-Apple plus "E" toggles between these two modes at any time. It is possible to change the parameters at any time. The Open-Apple "O" command displays a menu of modification commands and prompts you for one. The wordprocessing function lacks spelling checker and mailing list functions (see my review of MegaWorks). It does have the capability of changing print pitches, underscoring, and directing printers to create super- and sub-scripts.

AppleWorks accepts up to three different printers. Only one can be a non-standard printer. The Apple printers and Epson printer are standard. However, I use a C. Itoh Prowriter and a Diablo 630. I had to configure separate program disks for these two printers. There is not a simple screen preview mode for justified text. It can be entered as a dummy printer, but I do not know how to routinely access this feature if the one special printer definition is used.

The spreadsheet function handles most of the functions I am accustomed to in VisiCalc and The Spreadsheet. While the "hide" function of The Spreadsheet is not available, alphabetic and numeric sorts are available. The standard functions are also available. My biggest adjustment was the Open-Apple commands in place of the "/" commands. The ability to transfer parts of the spreadsheet over to the wordprocessor, however, is one of the selling points to me for this program.

The data base function is the third main part to this software package. This part is the most complex one to master. You need to do a little homework before you set up the records for the data base. If you already have a file in ASCII from Apple Writer or some other data base program, it can be input once converted to ProDOS. One of the most versatile functions available in record entry is the conversion of a variety of date entry modes into the standard Mon XX 85 mode. This program allows you to "zoom" from single record to multiple record modes. You can do a sort on any of the columns in the multiple record mode on the basis of alphabetic, numeric or chronological order.

The data base offers several methods for printing out the data contained in the records. You can make table or label style reports. It is possible to perform some simple summations or calcuations; it is not necessary to transfer these records to the spreadsheet for this. It is possible to add new categories or delete some at any time. The lack of this type feature long ago drove me from VisiFile in search of better data base programs. It is also possible to undelete deleted items.

To me, one of the most powerful features of AppleWorks is the Clipboard. By using a cut and paste procedure, it is possible to transfer parts of a file between similar files or between the different operating modes. Not all permutations are possible. However, I found it useful to extract a part of a spreadsheet and transfer it to a document on which I was working.

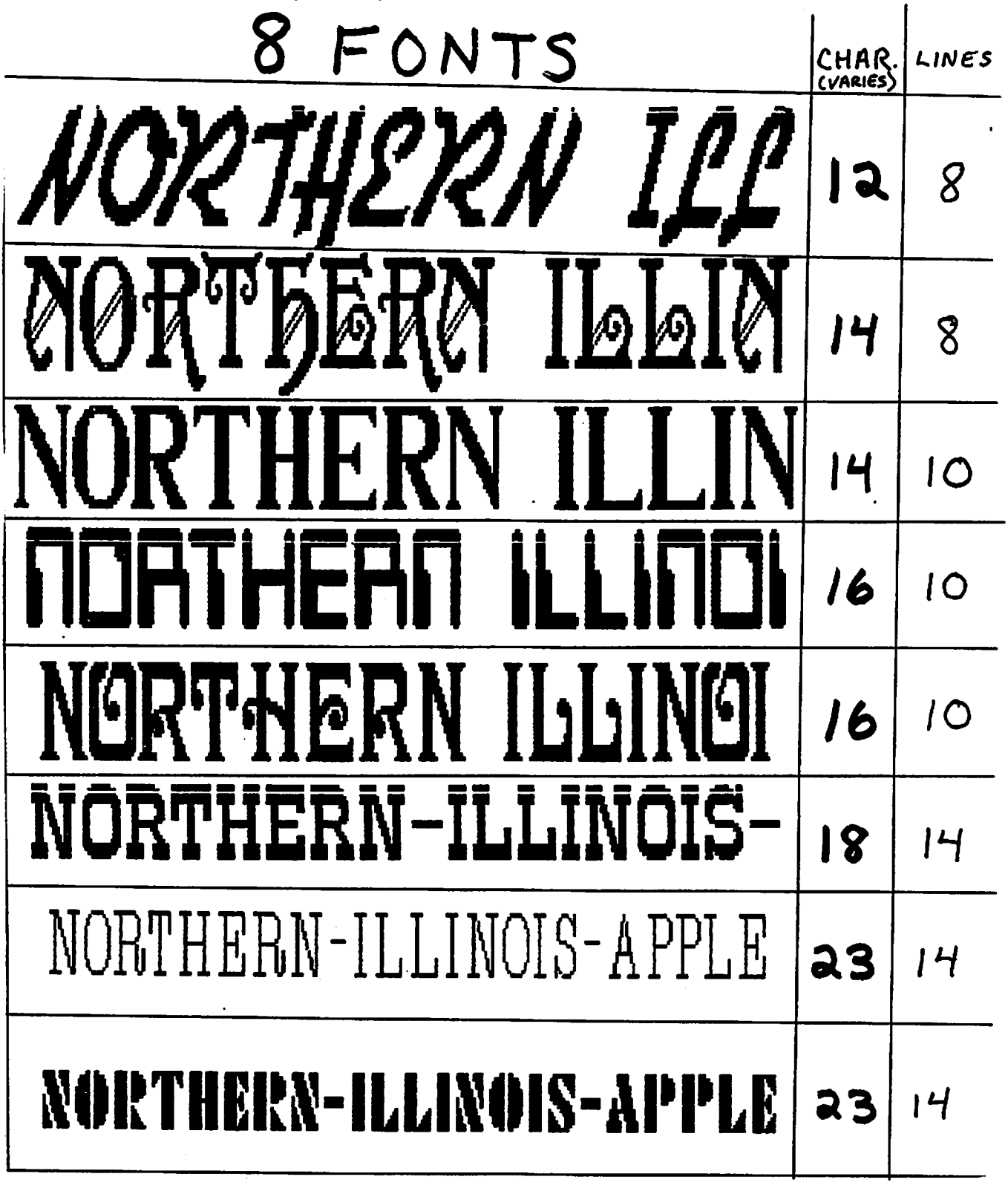
If I had a shopping list, I would have also requested that a telecommuncations package, a spelling checker, a graphical display and a mailing list capability be made available. The spelling checker and the mailing list are available in MegaWorks. The graphical display is now also available in GrafWorks (which I will review soon). I have not yet seen the telecommunications package. Unfortunately, with the supplemental programs, it is necessary to conduct an excessive amount of disk swapping, but at least it is no longer necessary to perform other file type or operating system transformations in order to implement these functions.

I find AppleWorks to be a good general, relatively inexpensive program for the home or small business user. It does not have every imaginable capability, but it has an adequate, reasonably fast, flexible and well documented performance to meet most needs. Perhaps in the future, such a program will depend more on icons for function selection, but with an hour or two of effort the novice can be operational and derive great value from his purchase.

PRINT SHOP SAMPLES

by Sky Findlay

At a recent meeting Sky Findlay gave an excellent demonstration of PRINT SHOP



Comparison of the letters sizes of various font styles.

LARGE

SMALL

Samples of various print options.

LEFT

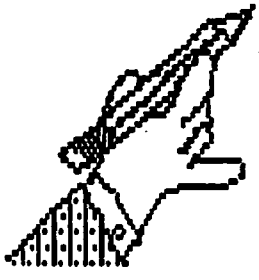
CENTER

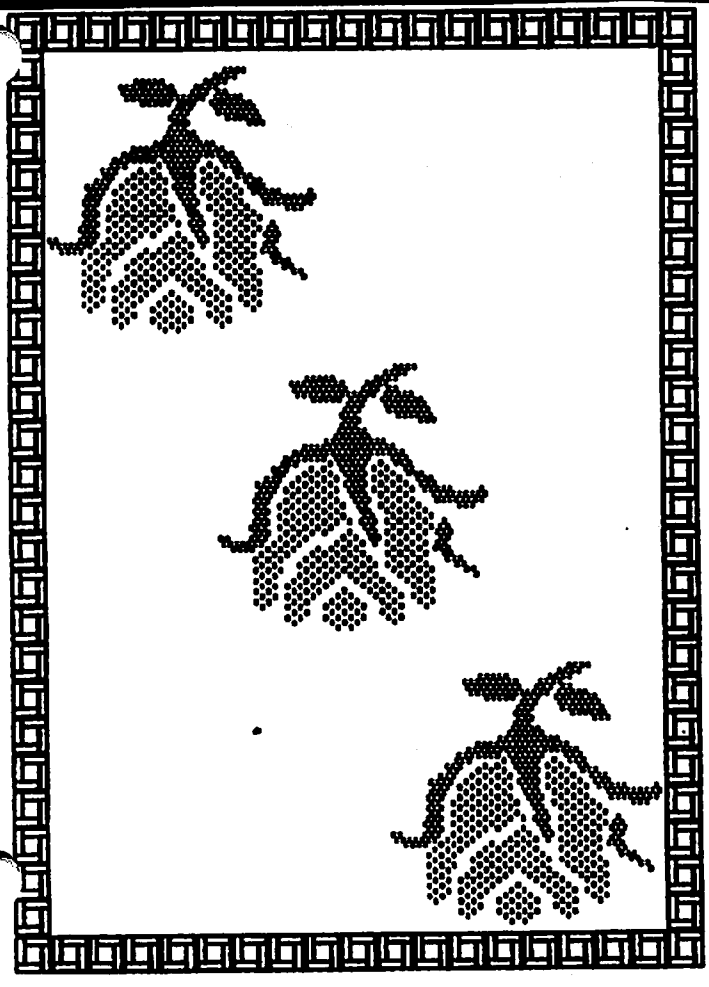
RIGHT

SOLID

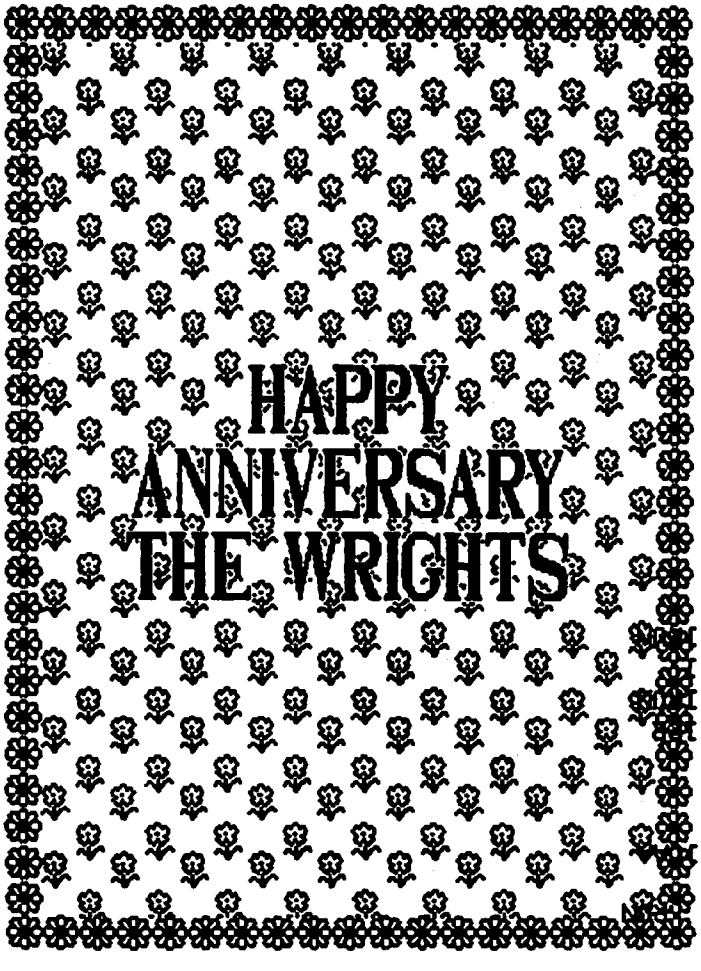
OUTLINE

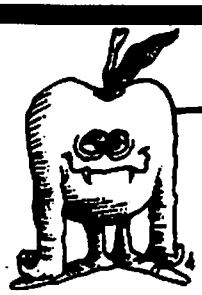
3-D





A card looks like this when it is printed.





northern illinois apple users group

1271 West Dundee Road, Buffalo Grove, IL. 60090

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PLEASE PRINT

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CITY _____ STATE ____ ZIP _____-_____

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Would you please take a few moments of your time to fill out the following information. This information will help us to get a better picture of what the needs of our Users really are.
Please check the type of computer(s) you have or are using.

[ ] APPLE II [ ] APPLE II+ [ ] APPLE IIe [ ] APPLE /// [ ] LISA

[ ] MACINTOSH [ ] APPLE COMPATIBLE [ ] OTHER _____

Benefits the group can provide for you _____

_____

_____

Benefits you would like to provide to the group _____

_____

_____

Comments _____

_____

##########

TREASURER'S USE ONLY Do not write below this line!

Cash [ ] Amount $ _____.___ Check [ ] # _____ Date ____-____-____

Refund of overpayment: Check # _____ Amount $ _____.___ Initials _____

DISCOUNTS

The following stores have offered discounts to NIAUG members. You "must" show your NIAUG membership card to get the discount.

SOFTWARE & BEYOND
formerly
SOFTWAIRE CENTER INTERNATIONAL
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1222 E. Golf Rd
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312-882-3733
Discount is 23% but you MUST speak with Holly Chaffin. Hrs Mon-Wed,Fri 9-6, Thur 9-8, Sat 10-5, Sun 12-4.

COMPUTERLAND OF ARLINGTON HEIGHTS
270 W Rand Rd
Arlington heights, Il 60004
312-870-7500
Discount is 10%, talk to any one on staff.

COMPUTER OUTPOST
520 Wise Road
Schaumburg, Il
Discount is 10% except on day of NIAUG general meeting when it is 15%.

SOFTWAIRE CENTRE
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Discount is 10% on merchandise under $100, 15% over $100.

COMPUTER JUNCTION
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or
7 S. LaGrange Rd
LaGrange, Il
312-352-4700
Discount is 15% on software, supplies and peripheral devices.

SOFTWARE CITY
2304 E. Rand Road,
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312-259-4260
Discounts- 5% on first $20, 10% $20-$65, 15% $65-$120, 20% $120-

MICRO-ASSIST
7302 sunrise Ave,
Darien, Il 60559
312-325-5551
Will offer 25% discount an all software

MIDWEST MICRO COMPUTERS, INC.
708 S. Main Street,
Lombard, Il, 60148
312-495-9889
Discount is 30% on any software in stock, 25% for software specially ordered.

COMPUTER TREE

1022 W. Lincoln Hwy,
Dekalb, Il, 60115
815-758-8666

117 E. Beaufort,
Normal, Il, 61761
309-452-2215

COMMUNICATIONS

DATA CAPTURE //e

I wrote about the original version of this program a long time ago -- now here is a revised version which has been adapted to work with the //e (or //c) with 80 columns and to use most of the features of the //e.

I can truthfully say this program is a honey! It works very well with my MicroModem II and allows me to automatically dial and answer the phone. The phone number and terminal protocols can be stored on the program disk in the form of macros which are easily called up while the program is running. The macros enable you to store sets of instructions to various bulletin boards and data bases. This not only saves time, but enables you to accurately send out these instructions.

You are able to turn a capture buffer on and off with two keystrokes. Likewise you may switch between full and half duplex, 110 and 300 baud, one or two drive operation and several other options -- all with just two keystrokes for each.

After you have captured some text, it is possible to sign off and then do some limited editing and save the captured text to disk. The saved file is a standard Apple DOS 3.3 text file and I usually use my ScreenWriter-II word processor to do any extensive editing.

Data Capture also enables you to send text files to other computers that you might be connected to. All in all, this is

Sider

A Review of a 10 Meg Hard Disk

by David Mackeler

Like many Apple owners, I have felt limited by the capacity floppy drives. While I do own two of them, I find myself doing a lot of disk swapping with my favorite applications. After contemplating purchasing another pair of floppies, or possibly some higher capacity drives like the Micro-Sci A70, I came across First Class Peripherals' (FCP) ad for a 10 Meg hard disk.

Not ever having heard of the company, and being greeted by the rather gaudy pull-out ads scared me a bit, but the people at FCP were very co-operative and helpful. They gave me the information on the hardware and software, and promised me, orally and in writing, that I could return it within 15 days for a full refund, no questions asked. It costs less than a DuoDisk and much less than a Profile, with twice the capacity to boot (no pun in- tended)!

I gave in. I ordered one. I love it! It consists of a XEBEC controller, FCP modified XEBEC software (just like CALL A.P.P.L.E.'s) and a Miniscribe III half-height drive. All well known mass storage manufacturers. Software is provided to permit DOS 3.3, ProDOS, CP/M and Pascal to be co-resident on the disk. The disk can be divided up almost anyway you desire. DOS volumes can be either the normal 140K, or may be an oversized 400K. Pascal and CP/M allow up to four volumes apiece, while ProDOS must consist of two equally sized volumes. The hardware installation was somwhat frustrating because of the RFI con- cerns have led to complicated connectors that are difficult to install. The installation manual suffers from a minimum of pictures. In spite of this however I did succeed in getting everything together.

The controller card goes into slot 7. You may put it in almost any slot, but slot 7 is recommended as this permits a direct boot from hard disk. The main menu, which pops up everytime the Apple is powered up, permits a boot from slot 6 for copy protected software.

The menu, which is written entirely in Applesoft, allows a direct boot into DOS, CP/M, ProDOS, or Pascal. Choosing DOS causes the menu program to run a program called HELLO DOS which can be changed to do anything your favorite hello program usually does. Booting into CP/M or Pascal causes a "warm" boot to occur, which results in a surprisingly fast switch. CP/M does not permit a startup program of course (except via SUBMIT, which still works), while Pascal looks for a program called HELLO.CODE. If you have a favorite Pascal startup program, you need simply rename it from SYSTEM.STARTUP to HELLO.CODE. ProDOS still looks for the first "SYS" type file, so if you have BASIC.SYSTEM on the Sider, it is automatically invoked. BASIC.SYSTEM still looks for an Applesoft program called STARTUP, and executes this as from floppies.

Besides the ability to boot into any of the four operating systems and from the floppy, the main menu has two additional options. The first is to permit the drive heads to be parked on a landing zone. This is absolutely necessary when the drive is to be moved, but it is highly recommended (by me) to do it before each power down. A bad floorboard, or a trip over the wastebasket could cause a head crash otherwise. The other option is to go to the support utilities menu.

Briefly, the utilities provide an easy way to get a master catalog of all the DOS volumes and to perform diagnostics on the controller, the interface card, and the disk. Backup/restore utilities are provided, as is a custom FID which provides the full functionality of Apple's FID as well as the ability to upload or download a complete floppy disk to the Sider for small (143K) volumes. Of course, one of the utilities allows you to format a DOSless data diskette to allow this image copy to function, as each 140K volume does not need to contain the DOS image.

Other utilities allow a custom user menu, the ability to move the controller card into another slot or to put a different version of DOS, such as Diversi-DOS, on the Sider. Lastely there are programs to mount or dismount Pascal and CP/M volumes when two Siders are connected together. This is necessary since Pascal can only recognize four volumes in addition to the two floppies, whereas two daisy chained Siders would alow up to 8 (4 on each Sider) total volumes. Likewise for CP/M.

Ths software installation went flawlessly. The disk can be logically divided into almost any combination of volumes and operating systems imaginable. The installation software uses a hires character generator, and has some very helpful graphs showing how the disk space will be divided. As you play with the volume sizes and operating systems, you see a visual display, as well as raw numbers. The raw numbers include both absolute allocation in megabytes, as well as a percentage allocation. I divided mine into 2 small (140K) DOS volumes, 3 large (400K) DOS volumes, two ProDos volumes of 1.5M each, four CP/M voumes of varying sizes totalling over 3M, and four Pascal volumes of varying sizes totalling over 2M. I set up Pascal and CP/M with one smaller volume each where all the operating system programs are contained. I then set aside the larger volumes for my own code. The only restriction is that the first DOS 3.3 volume contains about 100K of utilities. After you set up the size and number of volumes, the formatting begins. This takes about half an hour. Every track and sector is formatted and verified. If any bad tracks are found, they are transparently replaced by some special tracks reserved for that purpose.

The software installs DOS 3.3, but the people at FCP worked with Bill Basham to assure that Diversi_DOS will function, including the DDMOVER program. It also permits you to install ProDOS, provided you have the ProDOS

System Master. Pascal 1.1 and 1.2 are supported, as are both Microsoft's CP/M and PCPI's Applicard CP/M. For all but DOS 3.3, you must provide the appropriate system master. The Sider does NOT come with those operating systems.

The only hardware conflict is that the CP/M card must be located in slot 4. Unfortunately, I own a Mockingboard and it's software will only function when the card is in slot 4. Sweet Micro Systems (manufacturer of Mockingboard) markets a utility which, among other very valuable features, permits the Mockingboard software to be configured for any slot. While FCP recommends that their controller be placed in slot 7, it may be relocated in any other slot. The only drawback is that with a floppy disk controller in slot six, you will have to always boot from a floppy. You have then lost the lightning fast boot capability of the hard disk, as well as the ability to boot into any operating system with a single keystroke.

The utilities suffer from a lack of adequate documentation. There are two pages in the entire manual dedicated to the utilities, with only a third of a page dedicated to the backup utility. Even with ten years experience programming, and knowledge of other manufacturers' backup software, I was still unable to adequately create a backup library. After about 40 minutes of hand holding on FCP's "800" number, I finally understood what was happening. The technical support person, Lance, had just received his unit and had not had a chance to really use it. A good manual would probably have been much cheaper than the phone support they now provide. If you don't feel comfortable trying to understand poorly written manuals, but don't want to spend triple the price for the closest competing hard disk, get the assistance of a more technical friend in setting up backup procedues.

The backup utility is not strictly necessary. All of the operating systems' traditional file handlers (ProDOS Filer, Pascal Filer, CP/M PIP and FCP's FID) allow files to be copied between floppies and the Sider. The backup utility has two distinct advantages however. It allows files larger than a single floppy to be restored, and it permits multiple versions of the same file to be saved to the same diskette. In addition, it provides date stamping of backed up files. Unfortunately, it does not yet support ProDOS, although that is "in the works." The utility even reads the current date from a clock card. It seems to have problems recognizing the year, as it insists on returning to 1984 after each use. Ah well, one month old and already looking back to the good old days.

CP/M and Pascal utilities allow selection of volumes, even after the disk is formatted. The recommended configuratioin is to set the Sider up as the "boot" disk. For CP/M, this implies volumes A:, B:, C: and D:, since volume A: must be the boot disk. If desired, the floppies may be made volumes A: and B:, with the Sider being volumes D:, E:, F:, and G:. The drawback is that a system disk must always reside in a floppy drive, just as on a floppy only system. Similarly for Pascal, the "boot" volume, #4:, is normally made to reside on the Sider, but it may be reassigned to the floppies. This of course requires SYSTEM.PASCAL to always be present in the first floppy, just as with a floppy based system. In both cases, choosing the defaults permit the requisite files to remain on the Sider, permitting optimum speed of access, and reducing the need to use low capacity slow access floppies -- after all, isn't that why one buys a hard disk?

Once set up, you may never need nor desire to use another floppy again, except for making backups. Thse speed is really addictive. My Aztec C development system was a real bear on the floppies. Compiles and links are very time consuming, both floppy in use lights stayed on constantly, and the object modules consumed a lot of disk space. Now compiles and links are performed in less than half the time required by floppies, and disk space is much less concern.

Speed results for ProDOS are just as striking, as the timing tests below attest. And the modified DOS presented no problem to Aztec C, which modifies DOS itself.

ProDOS timing test results for reading and writing 120 block text file in seconds:

	/RAM	SIDER	FLOPPY
Write	14	17	35
Read	11	14	32

Access to the many DOS volumes on line presents no problems, you simply treat each of the volumes on the hard disk as different DOS volumes. The volume with the main menu and utilities is accessed as "S7,D1,V1", and my Aztec volume is "S7,D1,V3." I can simultaneously access my floppies and the hard disk volumes with no difficulties.

So what's the bottom line, you might ask. If you need additional on line storage, want to eliminate the floppy shuffle, and are frustrated by disk bound programs, this might be it. The price is right, the performance is right, the documentation is not right, but the telephone support is, and the documentation will be right Real Soon. The unit is fairly small, and not much noisier than a fan; unlike a printer, it may readily be tuned out. As with any hard disk, copy-protected software most likely will not take advantage of its capabilities, although the people at FCP tell me it is compatible with Quark's Catalyst, which permits ProDOS based copy-protected software to operate from a hard disk. While not for everyone, this looks like the first mini-Winchester "for the rest of us."

DUOWRITER SWITCH by Tyson Gill, NEOAC

In Vol 3, No 2 of NIBBLE Magazine Dean Kay presented a construction project entitled "Disk Writer Switch." The Disk Writer Switch provides control over the write protection feature of Apple Disk Drives having mechanical write protect sensors. This article described how to install this type of switch on drives having optical write protect sensors, such as the Duodisk.

After installing the switch, it can be set to three different positions. In the NORMAL position, the disk drive operates as usual. In the PROTECT position, the drive will not write to any disk, whether the write protect notch is covered or not. In the OVERRIDE position, the drive will read or write to any disk, regardless of the status of the write protect notch.

I have found this switch invaluable. By having Drive 2 set to PROTECT, I am certain not to accidentally destroy files on in that drive when distracted. By setting the switch to OVERRIDE, I can write on the back side of diskettes without cutting a notice or removing the tape.

Recently I upgraded from a II+ to a IIe with a Duodisk. I tried to live without my switch, but found I was too spoiled by it. When I lost a days programming by writing to the wrong drive, I decided to void the warranty on my Duodisk and attempt to install a similar switch on it. The project took only about an hour despite having to tear the drives apart and trace lines. If you follow my pointers you could do it in much less.

The modification only requires the following parts costing no more than five dollars total:

1. A Mini DPDT Toggle Switch
2. 4 pieces of wire about 16 inches long each (24-30 gauge)
3. A small piece of the same wire (1/2 inch)
4. 2 inches of electrical (black) tape.

The following tools are also required:

1. A Phillips Screwdriver
2. A Soldering Iron and Solder
3. A Drill and a bit just large enough to allow your Toggle Switch to thread through.
4. A wire cutter or utility knife.

Here are step by step instructions for installing your Duodisk Switch:

1. Solder the small piece of wire across the two terminals on one end of the toggle switch.

2. Solder the four 16 inch wires to the other four terminals on the toggle switch. Set aside the toggle switch for a while.

3. Remove the cable from the rear of your Duodisk.

4. Use the Phillips to remove the two screws on the rear of the Duodisk and lift the cover off the unit.

5. Remove the phillips screw holding down the metal cover on Drive 1 and pry off the plate.

6. On the rear of Drive 1 is a plug-in type connector with numbers identifying the lines coming in from Drive 2. Find the two wires entering the upper)a) side of the connector numbered 5 (orange) and 6 (violet). These go to the write protect sensor in Drive 2.

7. About halfway between Drive 1 and Drive 2, snip these two wires and remove about 1/4 inch of insulation from the four ends.

8. Connect these wires to the ones you attached to the toggle switch previously as shown in the schematic. After twisting to form a good mechanical connection apply a little solder and wrap each connection in electrical tape.

NOTE: At this point test your disk drives and the Duowriter switch operation. Boot up your computer then set the switch to one side and try to save a test program to a write-protected disk. If you get a write protect DOS error then this is the NORMAL setting. If the program writes then this is the OVERRIDE setting. Now flip the switch to the other side and try saving again. You should get the setting that you did not get in the first position. Flip the switch to the center position and try saving. This is the PROTECT position and you should get the DOS error. Experiment with other combinations of write protection and switch settings to assure yourself of proper operation. If the operation is not the same as described in this article, recheck your wiring.

9. Drill a hole in your Duodisk body just above the Apple picture on the lower right of the front. The plastic is quite soft and will drill cleanly with a gentle pressure.

10. Insert your toggle switch from the back and fasten. Be sure to feed your wires around the back of the drives.

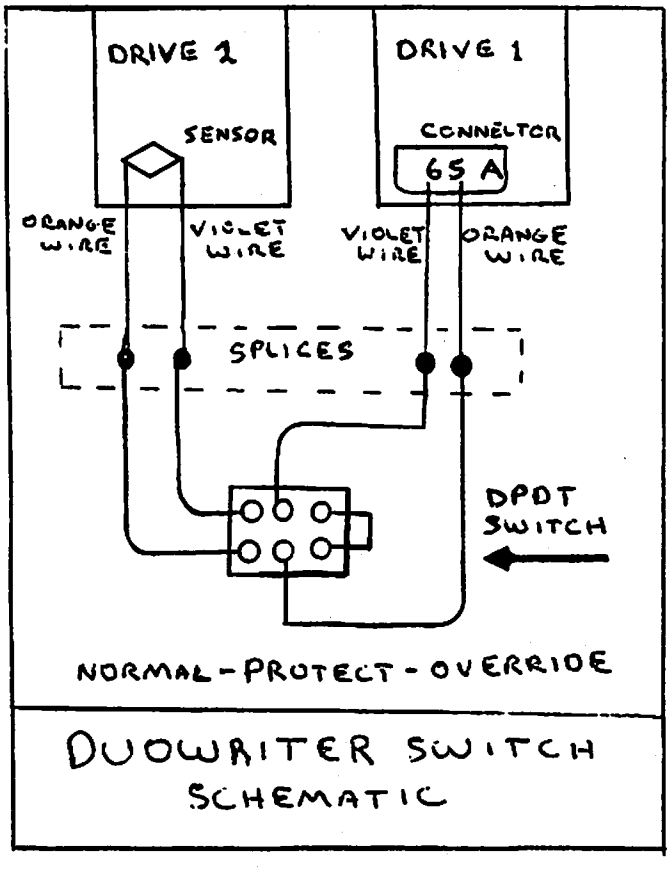
11. Replace the cover on Drive 1 and be sure the ground wire is in place as you insert the philips screw.

12. Replace the cover, screw it back on, and reinstall your plug.

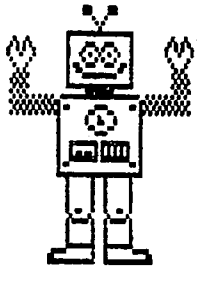
If all went well, you should now have a Duowrite Switch on Drive 2 of your Duodisk. In the center position your drive will PROTECT all diskettes, On side will be NORMAL operation and the other will be OVERRIDE mode. I put "N" and "O" labels on either side of the switch or else I always forget which is which.

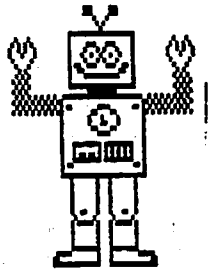
Note please that I am not a serviceman so that I cannot guarantee this procedure. If you blow something up in your Duodisk, you'll just have to throw yourself on the mercy of a trained technician.

I hope that this modification will be trouble-free and well worthwhile. It has certainly proved to be a valuable asset to me.



DUOWRITER SWITCH SCHEMATIC





Bag of Tricks

Quality Software
6660 Reseda Blvd.
Suite 105 Reseda, CA 91335

Review by Fred Rosenberg 8/31/84

Bag of Tricks is a series of four disk repair utilities that I sincerely hope nobody ever needs to use. If this were a perfect world free from I/O errors, there would be no need for Bag of Tricks. If one always had backup of all disks readily available, there would be no need for Bag of Tricks. Unfortunatley, life is not so simple, and Bag of Tricks can be a very valuable tool. While full use of Bag of Tricks requires a pretty hefty knowledge of DOS (would you recognize an invalid checksum if it bit you?), many Apple users should be able to survive the tutorials and recover some of his clobbered disk. Obviously, the importance of the data is directly proportional to the amount of time and effort one is willing to put into extraction efforts.

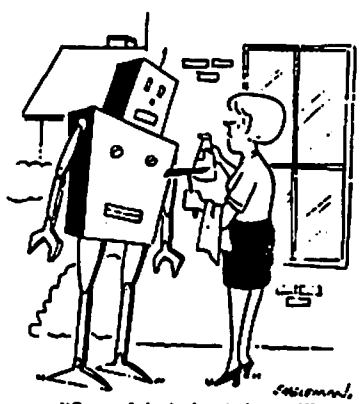
The Bag of Tricks cast of characters are: Fixcat, Init, Trax, and Zap. Fixcat is probably the easiest of the four to use, and the results most impressive. Here is a typical example of a typical disaster... Bob was using his trusty word processor to write a book that would make him rich and famous. He had just finished saving the last page of the last chapter to disk when he decided to look at a previous page. When Bob tried to catalog his disk, all that was found was the first page and then... "I/O ERROR." Bob had somehow clobbered track 17, which normally contains the catalog information. Fixcat to the rescue! Following the tutorial in the back of the manual, Bob was able to reconstruct his catalog track, and recover all his files. While much of the technical information offered in the tutorial was of no interest to Bob (he's an author, not a hacker, remember?), he still found Fixcat a relatively painless lifesaver. Hopefully Bob will make backup copies of his disks in the future.

A few days later, Bob was at it again. It was three AM, and he'd had a brainstorm. Ignoring his wife's editorials about the hour, Bob sat down to work, attempted to load his current file, and got the dreaded clack-clack-clack of a disk drive and then... "I/O ERROR." Upon looking into his disk box, Bob felt weak as he realized he'd forgotten to backup last night's work. Bob put Bag of Tricks into drive 1, opened up the book, and started in the Advanced Tutorials. Page 1 of this chapter suggests running TRAX to try and locate his data error. Bob followed the TRAX tutorial (skipping the first couple of pages explaining address and data fields) and very soon was thoroughly intimidated by the charts and technical jargon. Bob decided he had better wait until he could get some help. Luckily, Bob's friend Norman the Nerd was also a night-hawk.

Norman used TRAX to verify Bob's disk, and discovered that the data contained in track 0B sector 09 did not match the checksum. Somehow, a portion of this sector had been damaged - possibly by static electricity. Norman ran INIT in an attempt to reformat track 0B, and it warned him "1 sector of 16 unreadable." Bob was going to lose at least some of his recent manuscript. Norman instructed INIT to ignore read errors, and the program took off, reformatting the damaged sector. TRAX then informed them that the entire disk verified, meaning that Bob's text file was now readable by his word processor. That was the good news. The bad news was that INIT erased the damaged sector. "Sorry, Bob, we can't do everything, but we can make recovery a little easier for you." Norman then used ZAP to change all bytes within the previously damaged sector to asterisks. Bob loaded his previously unreadable chapter, and found a group of 256 asterisks in a row. He had lost about one quarter of a paragraph - a very small portion of his original five page piece. An oath was sworn that backup would never again be procrastinated.

Unfortunately, Bag of Tricks was over Bob's head. Hexidecimal math, tracks, sectors, and bytes were not within Bob's vocabulary. However, if one is interested in DOS, can count in Hex, and is willing to invest some time to learn Bag of Tricks, he will be more than rewarded when disaster strikes.

This review was sent to Quality Software in September; no reply was received as of December 10th.



"Sorry, I don't do windows...!"

PRACTICALC II--JUST HOW PRACTICAL? - A REVIEW

By Bob Charnetsky and Ed Ontko

Practicalc II joins the new generation of programs that attempt to do everything and yet retain the simplicity of a ten key pad. Does this "do everything" attitude, however, increase the "useability" of this and other programs? Is it possible to have your cake and eat it to?

Practicalc II is described as "a capable spreadsheet enhanced with easy-to-use word processing and database functions." For those of us used to Advanced Visicalc, Wordstar and dBase II, does this spell an ill omen coming from a program that retails for $69.95? Just where do its limitations surface and what should you expect from it?

Upon booting the program (which takes up to 30 seconds) you are immediately placed in the spreadsheet. With a 64K Apple you have 31K bytes of workspace. A 48K Apple gives 20K bytes. The amount of workspace remaining appears in the upper right-hand, screen corner. Brief tests on a with extended 80-column indicate that the additional memory is utilized.

As with conventional programs the slash (/) allows selection from the command menu. An obvious attempt has been made to integrate the keystroke selection with the function which that keystroke selects. For example:

/S to SAVE a file
/L to LOAD a file
/G for Global Format
/O for access to options menu

More advanced commands include:

/T to title and set individual column widths.
/X to sort alphabetically and numerically by columns.
/@ to search for a particular entry.
/W to block paragraphs of word processed text at different widths, or to right-justify text.

As you might gather from the list of advanced commands, this is no run of the mill spreadsheet. Let's look at these a bit closer.

Features which people mention as wanting in spreadsheets are: titling, variable column widths, sorting a column of either alphabetic or numeric entries, and just having a spreadsheet.

Titling is probably best (or worse) defined as placing header information over the actual data which is available. Practicalc II has a feature which allows writing "beyond" the normal column width of a cell. First, "long labels" is selected from the options menu. Next a title of say 50 characters is entered in its entirety at the desired location. The 50 characters are assigned to the home cell where the cursor is positioned but the 50 characters "string out" and appear in the columns to the right of the home cell. Later changes to the spreadsheet, inserting a column or changing a column width, does not disturb the title.

Variable column widths is pretty much self explanatory. Information may be hidden (a big thing it seems these days) by "shrinking" a column to a width of 1. The sort feature performs alphabetic or numeric sorts and allows partial or complete sorts of a particular column.

The search command will find alphabetic entries. A wild card character is supported. Searching for values and formulas is not quite as flexible. If the value in a cell is the result of a formula (a common occurrence) entering that value will not locate the cell location. Using "inequalities" (< and >) along with the value, however, will locate the cell location. And probably a few other unwanted values as well. For example, entering the value 2000 will not locate 2000 if it is created by a formula. Entering 1995, however, will locate the 2000, along with every value greater than 1995.

Using Practicalc II as a word processor will certainly find use for people who need to integrate limited text with their spreadsheets. When limited to a 40-column screen, however, viewing text of normal width is a real pain. The only way to see what you have is to print it out or to view it line by line while in edit mode. Those of you with 80-column cards will find this manageable. Edit mode by the way is very useable and generally follows the format set by line editors (GALE, GPLE).

Applications section:

One of the key features of Practicalc is programmable iteration. An example may best show the value of this. Suppose you are looking at a discounted bond which matures in three years. You desire to know the after tax internal rate of return (IRR) which this investment will give over its life. The spreadsheet setup appears as follows:

	0	1	2	3	4	5
A		BOND ANALYSIS				
B						
C		INCOME	TAX	NET		
D					IRR	???
E	(9.00)	-88.20			PV	88.20
F	MAY 85	4.50	2.25	2.25		
G	NOV 85	4.50	2.25	2.25		
H	MAY 86	4.50	2.25	2.25		
I	NOV 86	4.50	2.25	2.25		
J	MAY 87	4.50	2.25	2.25		
K	NOV 87	4.50	2.25	99.89		
L	NOV 87	100.00	2.36			
M						

The bond sells for 88.20 ($882.00) yields 9% interest annually, with interest paid semiannually, and has a par value of 100 ($1000). The taxpayer is in the 50% bracket and long term gains are taxed at 50% of 40% of the gain.

The question to be answered is what IRR gives a Present Value (PV) of 88.20 given the net cash flows of column F3 TO K3. The equation

NPV(??,F3,K3) = 88.20

needs to be solved. In the old spreadsheet days you would fill in the ?? with a fractional value and observe its affect on the present value number of R/C E5. When it reached 88.20 you had obtained the IRR for the investment. This IRR figure was then placed in R/C D5. (Since the interest periods are semiannual you would double the indicated IRR to show an annual figure). Now enter Practicalc, the spreadsheet blocks D5 TO G5 are given below.

```
          5
D       D5+.0001
E       NPV(D5,F3,K3)
F       DISPLAY (1)
G       GOTO(E5>=ABS(E1),D5)
```

R/C D5 acts as the IRR variable for R/C E5
R/C E5 finds the NPV for the stream of cash flows for the bond
R/C F5 displays each computed iteration
R/C G5 reads: if E5 is greater than or equal to the absolute value of E1 then goto D5.

Cell G5 compares the NPV of cells F3 to K3 at IRR D5 to the absolute value of the cost of the bond. Since the iteration starts at .0001 the NPV is far greater than the absolute value (ABS) of the cost of the bond. The GOTO test is successful (E5 is greater than ABS E1) and the spreadsheet "falls back" to cell D5. D5 is incremented by .0001, a new IRR is computed at E5, and the test at G5 is again executed. When the test at G5 fails (a thousand or so iterations later), the IRR for the investment has been computed. Cell F5 displays each iteration as it occurs and can be omitted to speed things up. Programmable iteration is a handy feature and almost allows you to do programming on the spreadsheet.

You probably noticed in the bond analysis that the row and column alpha/numeric references are reversed from traditional spreadsheets. Are traditional spreadsheet files compatible with Practicalc II? Limited testing indicated that they are.

In summary, Practicalc II is a very capable program and offers features found in no comparably priced product.

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"UNDOCUMENTED" 6502 MNEMONICS

by Paul Lewis

Recently a list of undocumented System 370 Instructions (IBM's Assembler Language) crossed my desk at work. These "newly" identified instructions seemed to explain why so many things go wrong with our systems at work. On closer examination it appeared that many of these undocumented instructions had slipped from the IBM instruction set to the Apple's 6502 instruction set, again bypassing the tech writers. I think you will agree that these "new" instructions explain why things do not always happen as expected with our PERFECT programs.

MNEMONIC	MEANING
BH	Branch and hang
AI	Add improper
DO	Divide and overflow
ARZ	Add and reset to zero
SRZ	Subtract and reset to zero
RI	Read invalid
RP	Read printer
WWLR	Write wrong length record
SRSD	Seek record and scar disk
ED	Eject disk
RD	Rewind disk
BD	Backspace disk
RIRC	Read inter-record gap
UER	Update and erase record
MDB	Move and drop bits
CM	Circulate memory
MLR	Move and lose record
MC	Move continuous
HCF	Halt and catch fire
CVU	Convert to Unary (base 1)
CRN	Convert to Roman Numerals
BAE	Branch on almost equal
DWIM	Do what I mean
ARN	Add Roman Numerals *
BST	Backspace and stretch tape
RBT	Rewind and break tape
SPSW	Scramble program status word
EIOC	Execute invalid Op Code

Art and Graphics on the Apple II/IIe

BY Rick Stauffer, NEOAC

I saw this book laying on Bob Caldwell's floor and thought to myself 'Wouldn't this be a great book to read' and found that I had taken over the task of another book review for him. Poor guy, he already was into two or more new library books that also needed reviews. So being a good friend with Bob, I naturally took on the job with a passion. Besides, didn't I always want to understand shape tables and such other graphics concepts?

The following list of the chapters shows you what commanded my attention as I looked at the table of contents.

CHAPTERS	INFORMATION GIVEN
One	A quick review of basics
Two & Three	Low Res basics
Four & Five	A quick look at Hi Res
Six, Seven and Eight	**SHAPE TABLES**
Nine, Ten and Eleven	Animation Routines
Twelve	Photograph your screen
Thirteen	VCR'S and the Apple

Three chapters on shape tables, just what the doctor ordered! I was truly hooked by this new book. That evening I took the book home and dove into the reading of it and almost immediately realized that I had been again taken by a slick cover and uninformative listing of chapters. I should have realized that 6 pages was an awful short chapter for an introduction to shape tables. I knew they were supposed to be easy, just never knew they were that easy to describe!

Now that you have an inkling what I feel about the book, let me tell about it.

The book is full of interesting graphics routines that might possibly have some use elsewhere, if you understand them. Not to worry, the author doesn't lose anyone until he states, and I quote, "don't worry about why or how the POKE and LOC numbers are derived. Just use them... How the memory location decimal 7676 was chosen, why we use the numbers 252 and 29, and how the shape data are generated is explained on pages 92-97 of the Applesoft Basic Programming Training Manual." After that I felt that the book was very useful in teaching myself how to type. Some of the listings are as long as 20 or 25 lines. Or for the inexperienced typist it does come with a disk containing all the listings.

All in all this is a good book for the New Beginner who wants to see what his/her Apple can do with Graphics. He can load the disk and just RUN any of the listings. It is jammed packed throughout it's 125 pages of large type with BASICS in graphics. Once anyone is serious in graphics they should find a serious book that helps explain the concepts without leaning too heavily on other books to do the explaining.

The book will never be a BIBLE FOR GRAPHICS.

The //e And /// And Me

By: Richard R. Lloyd

I've found that many Apple //e owners are unaware that their computers have built-in diagnostic tests which they can use whenever they wish, so we'll discuss the 'hows' and 'whats' of the tests this month. Incidentally, the 'why' is that Apple Computer Inc. put them there to use during the manufacturing process. Since they are in ROM, they stay with the machine, and we can use them.

If the Apple //e is turned on while the closed-apple key is being held down, the tests are initiated. The same tests are run if both the open-apple and closed-apple keys are held down while the computer is turned on, except that a high-pitched tone then accompanies the tests.

The diagnostics test the motherboard's RAM memory as well as many of the LSI components on the board, e.g. the MMU, IOU, ROM's, etc. The sequence of events is as follows:

The MMU is tested
The IOU is tested
The E8 ROM is tested
The E10 ROM is tested
The eight RAM chips are tested

If everything has passed the test, "KERNEL OK" is printed on the screen. However, if an error is encountered during the tests, the diagnostics will stop, report the error and then hang the processor. Thus, there may be other problems which will not be reported until the first one has been fixed. Here are some of the error messages and what they mean:

MMU FLAG E4: (followed by a hex number from 0-D)
The Read Lang Card Bank0, Read Lang Card RAM, RAMRD, RAMWRT, ALTZP, C3ROM or 80STORE switch didn't initialize properly during reset (0-6), or the same switches wouldn't change (7-D).

IOU FLAG E5: (followed by a hex number from 0-B)
The 80VID, ALTCHAR, TEXT, PAGE2, MIXMODE or HIRES switch didn't initialize properly during reset (0-5), or the same switches wouldn't change (6-B).

ROM: (followed by E8 or E10)
The ROM at location E8 or E10 failed the checksum test.

RAM: (followed by F6-F13)
The RAM test is a two-pass write and then read test. Any failure is logged and then decoded to provide an indication of failure of the RAM at location F6 to F13.

Try running the test even if you aren't experiencing any problems with your //e. It give you a sense of confidence when you see "KERNEL OK" printed on the screen! Incidentally, the diagnostics reside in the F8 ROM. Soooooo, if you have a problem with that ROM, the diagnostics might not even run.

After the last two month's columns about Habamerge, I wrote to Chaz Haba, the President of Haba Systems. I enclosed copies of the columns for him to read and offered to print any comments he might have regarding the problem (or to print corrections if he found any of my statements to be inaccurate). To date I have received no reply.

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Copy Corner.....By Norm Birndorf
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All About Nibblers-volume 1

Just who are all those geniuses who determine what parameters to change so we ordinary people can nibble copy protected software with Locksmith Copy II+, and Essential data duplicator? Some of them are quite exraordinary when the convoluted copy protection of some commercial software, especially games is taken into account. Take for instance a game such as Choplifter. It has several ingenious copy protection schemes- there is no dos, just a quick single loader, the tracks are written in quarters so some drives won't read or will overwrite when copying, and finally the quarter tracks are arced and overlapped so that the end of one contains the address for the start of the next. WHEW! Determining these params is beyond the ability of most of us, but almost all other disks are relatively easy to copy once you know what the params are and what they do.

This will be the first in a series of articles about nibble copy parms and will be focused on Copy II+ since Central Point Software has documented their parms well.

Some general information first: the word parameter abbr. param or parm has no English meaning. If you don't believe me look it up for yourself. It does have a strictly mathematical meaning but has common usage to mean any controllable or uncontrollable variable in a complex system. A binary program designed to duplicate a copy protected disks is indeed rather complex but parms refer to only the controllable aspects of the program. The other word one hears when bit copy programs are discussed is algorithm. In this context this word means the order that the nibble copier uses its routines to try to copy the tracks one by one. The copy program makes no assumptions about the organization of the disk and simply sets out to find the trackstart, read the bytes into its buffer, write them back and verify that they were written correctly one track at a time. Copya and standard copy programs use the volume table of contents and assume standard disk formatting to copy. Even slight changes will defeat them.

The copy params can be divided into several groups:

1. trackstart finders
2. self sync cleaners
3. track synchronization routines
4. general purpose routines-how many tracks to copy at a pass for instance.
5. special routines-nibble count matching, dynamic header changes etc.

Most of the changes needed to copy a disk with simple dos alterations will be to the first two categories. This first article will deal with the trackstart parms-the heart of nibblers.

Remember dos 3.3 encodes data as it writes to the disk because of its hardware limitations. Some bytes are reserved for address identification and mark the start and end of each sector of data. The standard bytes for addess headers are D5 AA 96. These are followed by two byte pairs for volume, track, sector, checksum, and finally an epilogue of DE AA EB. Then follows at least 5 self synch bytes (having 10 bits) so the Apple can align itself to read the data address header which is D5 AA AD and the following 410 or so encoded data bytes which represent the 256 bytes of real data. Why it takes 410 bytes to represent 256 in the machine is beyond the scope of this discussion, but a good explanation is in Beneath Apple Dos by Worth and Lechner. The end of the data is marked by DE AA EB. Between the sectors are self synch bytes of 10 bits which usually appear as FF's. All this happens when a disk is formatted during the init process. I strongly suggest you init or format a disk and take a look at it with a disk edit program to see this for yourself. The pattern is therefore------FF FF FF FF FF FF FF FF FF FF FF FF FF FF (space between tracks) D5 AA 96-vol-track-sector-checksum-epilogue-FF FF FF FF FF FF (fewer self synch bytes)-D5 AA AD-data-checksum-DE AA EB.

The first thing Copy II+ does (the first algorithm) is to look for D5 AA 96 and one of the most common copy protection schemes is to change this to something else like D4 AA 96 or even DF AA BF. If you inspect the protected disk and see these alterations then you can modify this lookup routine to find the altered bytes. Parms E F and 10 represent these controls and their defaults are of course, D5 AA and 96! As the tracks are copied the program obligingly flashes a picture of its buffer and the trackstart as it reads. Locksmith 4 series also shows inverse bytes (very mysterious at first) which represent the order it is using routines to find the trackstart; i.e. if data headers cannot be found then next try to find synch fields. This is the "algorithm" of the program. This order cannot be changed in C II+ and it must first try to find data headers before going on to another way of identifying the trackstart.

So now for the parms

#4----default FE. Self synch bytes are usually FF. This is the minimum acceptable value CII+ will accept in finding a synch field of 10 bit bytes. Change it when your editor shows values less than this. Less than FD is unusual, but several programs do use FD's.

#5----default FF. This is the synch max.

#6----default 08. This is the minimum # of self synch bytes for CII+ to read before expecting an address. Some software companies write garbage to the synch fields or shorten the fields. Tell CII+ to look for less, but not less than 5 or you will not get a valid read.

#E----default D5. The first byte of the address header.

#F----default AA. The second byte.

#10---default 96.The third byte (B5 on versions of CII+ less than 4.4).

Well thats all, no harder really than Kant's "Critique of Pure Reason." If you are like me and like to pull this stuff on your friends, not to mention backing up all your nifty software, read the next installment on the dreaded synch field cleanup parms. If all this makes no sense to you, then give your copies of "Space Zappers" to a teen-age computernick and let him smoke his brain and his machine doing a boot code trace for the ensuing two to three weeks to crack the disk. If there is enough interest I will even try to do what Omega Microware didn't do in their documentation and explain how Locksmith actually works. This is no easy task so I will probably ask for a show of hands at a club meeting. If less than 20, forget it! I do this for bupkes anyway.

This was a little piece of information passed along to me after I asked a question at the last Apple Club meeting. Maybe it will help others in the same situation.

A Club member had bought an Apple IIc and Apple Works software to do some writing. After typing in a number of pages of text, the member thought it would be a good idea to number the pages in numerical order. Trying to follow the list of commands contained in the word processor, was unable to accomplish the task. So the question was asked of me which in turn I asked at the meeting. It was resolved that the only way to solve the problem was as follows. After finished with typing up the text, type OPEN APPLE - K. This calculates the number of pages. Type OPEN APPLE - O and place the cursor where you want the number to be on that page. Then type the page number. This must be done for each page indivudally. According to my source, this is the only way to get the job done. Maybe some of you out there have a different solution. If so, the newsletter editors would like to hear it.

REPRINT ACKNOWLEGEMENTS

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Hardware Considerations: Modems and Phone Lines, Dr. Jeff seaman, Penn Printout, Feb 1985
Communications Software, Chris Swisher, Penn Printout, Feb 1985
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A Review of Bag of Tricks, Fred Rosenberg, Apple Sphere, Jan-Feb 1985.
A Review of Practicalc II, Bob Charnetsky & Ed Ontko, Adams Apple, March 1985.
Undocumented 6502 Mnemonics, Paul Wilson, Washington Apple Pi, Feb 1985.
Arts and Graphics on the Apple II/IIe, Rick Stauffer, Apple Bits, March 1985.
The IIe & III and Me, Richard Lloyd, Syracuse Apple Users Group.
All About Nibblers, Norm Birndorf, Stems from Apple, Jan 1985.
P-System for the Mac, Stephen J. Hyland, Washington Apple Pi, Feb 1985.
Visicolumn: Tips on Multiplan and the Mac, Walter Francis, Washington Apple Pi, Feb 1985.
Using and Programming the Macintosh, Bob Caldwell, Neo Apple Bits, March 1985.

MACINTOSH

Macgoodies, Gadgets and Software

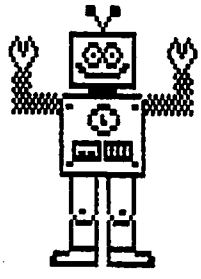
by Curt Erickson and Fred Pryor

Desktop Software Corporation has released a new version of its 1stBase relationship data-base system for the Macintosh. Version 2.0 includes the ability to store report programs, compute new fields from existing fields, and produce free-form reports. It also has the ability to allow storage of both tabular and free-form reports, as well as the sorting, screening, and calculating of new fields. In addition, as with the original version, report output may be stored in a file, allowing information to be transferred to other Macintosh programs, such as MacWrite and MacPaint, as well as to MicroPro International Corporation's MultiPlan and Microsoft Corporation's Chart. The program's free-form reporting capability is said to allow the merging of data, both computed and file fields, into the body of any report. Other features include an increase in the number of fields from 50 to 100, subtotaling capability, and the production of mailing labels, up to five across. All files created on the original version will automatically run under Version 2.0, and will run on either the 128k or the 512k Macintosh. The new version has a suggested list price of $195. Current users may obtain an upgrade that includes an new manual for $25.

Dow Jones Information Service, a division of Dow Jones & Company, has released two new products for the Macintosh which are designed for users such as personal investors, credit managers, and financial analysts. Straight Talk is a communications package which allows users to log-on to the Dow Jones News/Retrieval system and to download the information into the Macintosh. The other package, Spreadsheet Link, must be used in conjunction with Straight Talk and eliminates the need to input spreadsheet information by hand into the computer. Spreadsheet Link also allows users to download and print information into Microsoft Corporation's Multiplan for manipulation. Straight Talk retails for $79 and Spreadsheet Link $99.

Peachtree Software Inc. has introduced a version of its entry level accounting software for the Macintosh. The first of the Back to Basics accounting packages released for the Macintosh is a general ledger, which requires 128k of memory. The Back to Basics Series was previously available for other Apple computers as well as other popular personal and home computers. The packages were redesigned for the Macintosh to take advantage of its graphical interfaces and ease-of-user features. Modules for accounts payable and accounts receivable are scheduled to be release in the first quarter of 1985 and require 512k of memory. The general ledger package retails for $195.

Toshiba America Incorporated's information Systems Division has introduced a new printer interface option for use with the Macintosh. The P1340 printer-interface option enables users to produce letter-quality and draft quality copy, as well as graphics and spreadsheets from a variety of Macintosh software packages according to the company. The P1340 prints copy 80 columns wide at 144 characters per second and at 120 dots per inch with a 24 pin print head. The graphics applications are said to print at 180 dots per inch resolution. Software-selectable fonts, pitches, and line spacing are also standard features of the printer interface. When the P1340 is used with the Macintosh, an Apple serial-interface cable is needed. According to the company, the Toshiba printer-control software driver is required with the Macintosh and is available free at local Toshiba dealers. The P1340 printer-interface retails for $995.



p-SYSTEM FOR THE MAC

by Stephen J. Hyland

As a programmer, I purchased my Macintosh primarily for use as a software development tool. However, until recently, developing software required access to a Lisa if one wished to develop compiled software. In my work, I use Ada; however, I have also used Pascal, Cobol, Fortran and Assembly.

In my survey of development systems for the Mac, I looked at all the available languages and rejected most of them. I have never liked Basic, and MicroSoft Basic is interpreted, anyway. Nor do I enjoy working with Assembly, although I realize its usefulness and am able to code in assembly when necessary. While "C" and Forth are compiled languages, I do not wish to learn a new language, especially those close to my primary languages, Ada and Pascal.

Since I already knew Pascal well, I chose to order the UCSD p-System from SofTech. This system looked as if it might fulfill my requirements for a compiled language with which I could develop (hopefully) marketable software. I am happy to say that, with some limitations, SofTech has fulfilled my expectations.

SofTech has been shipping the p-System for the Macintosh since October. At the time I placed my order, they had available three packages: the Designer Series Pascal Development System, the Designer Series Fortran-77 Development System, and the Advanced Development Toolkit. The Pascal/p-System package comes with a bootable p-System disk, a non-bootable disk containing the compiler, utilities, and libraries, and extensive documentation, which I'll discuss later. It also contains interfaces to QuickDraw and an interface to configure the serial port (MacConfig). The Advanced Development Toolkit contains a 68000-assembler and linker, symbolic debugger, native code generator, application interfaces, and some tools for program analysis. Documentation for all of this is provided; however, you will need some supplemental references for the 68000. I recommend 68000 Assembly Language Programming by Kane, Hawkins & Leventhal, especially if you are not a highly experienced assembly programmer, and the M68000 16/32-Bit Microprocessor Programmers Reference Manual from Motorola.

For those who are unfamiliar with UCSD Pascal and the p-System, the compiler generates an intermediate code (p-code), which is then interpreted at run-time by the operating system. This requires that whatever system running the program be running under the same operating system. The p-System operating system is often referred to as the "p-machine"; that is, the operating system is actually a pseudo-machine which interfaces between the hardware it is running on, and the software it is running. The advantage of this is that an application written in the UCSD version of Pascal or Fortran is transportable and should run on any machine running under the p-system, as long as the application remains strictly within the definition of the UCSD standard. The disadvantage of this, from a developers standpoint, is that the application can only be sold to those who have the p-system on their machine, or the developer must provide a bootable system with the application. P-code will also run a bit slower than a completely compiled application, however; it is my opinion that if speed is of the essence, you should probably code in Assembly. Most users will not notice much difference in speed in applications. SofTech does provide a way of producing faster code with their native code generator; however, native code will occupy more space, and the application will also not be completely in native code. Interfaces with ROM procedures will be in p-code.

The documentation provided is in four volumes: Operating System, Internal Architecture, Program Development, and Application Development. A copy of The UCSD Pascal Handbook by Clark & Koehler is also provided, and those unfamiliar with UCSD Pascal as well as those who are experienced with it will find this book helpful. For those who are new to the UCSD p-System, I also recommend purchasing Introduction to the UCSD p-System by Grant & Butah. The documentation provides a wealth of information about UCSD Pascal, and about the p-system. It is, however, limited in it's coverage of Macintosh internals, and not a substitute for Inside Macintosh. What you are provided with is sufficient for programming on the Mac. Source code is given for the Quickdraw interface and the MacConfig interface, as well as a sample program using Quickdraw.

The system runs its own operating system, as mentioned earlier. When you boot, the prompts and commands bear no resemblance to that friendly Macintosh interface, and you might as well get your mouse out of the way. Since this is the case, you might wonder about the usefulness of the p-System, but keep in mind, the p-System has been around for a while, and the operating system is well proven. The utilities are pretty standard (editor, filer, etc.) and are easy to use. The extensions to "standard" Pascal are very useful, and these include the ability to perform multi-tasking. I do not know what the efficiency is of multi-tasking on the Mac, but the ability is there, and I certainly intend to experiment. Bear in mind, p-System volumes and files and Macintosh files are completely non-existent to each other, at least in these packages. Also, the PBoot application on the MacBoot disk is copy protected. However, you can get a back-up of this from SofTech for five dollars. All else is copyable to other disks, and, once you boot the operating system, you can run programs on any disks without keeping the boot disk in the drive. You will have to re-insert the boot disk when you halt the operating system.

MacAdvantage, however, is a horse of a somewhat different color, and since it's arrival, this is primarily what I have been using. It is exactly what I was looking for in a development environment. MacAdvantage comes on two disks, neither of which are copy-protected. The documentation for this not only supplements the documentation for the p-System, it makes a good companion to Inside Macintosh. This is completely a Macintosh environment and is run separately from the other p-System software I mentioned. In fact, if it is your intention to develop exclusively for the Macintosh, you do not need to purchase anything else from SofTech.

Disk 1 is a bootable disk containing the UCSD Pascal compiler, an editor, several libraries, the p-machine, and several utilities. It also contains a file called Empty Program that contains the standard program resources. Disk 2 has a resource compiler, a librarian, a debugger, an error-handler, the code for the interfaces to the ROM routines, and a sample program that runs a Macintosh application. With these, you can write Macintosh programs using all of the ROM calls. You also have access to the extensions to Pascal found in UCSD Pascal.

Typically, you will enter your program using the editor, which functions similarly to MacWrite. You must also create a resource file for any resources you

will use in your application. Next, you compile your resource file using RMaker. Once this is completed, you click on the compiler icon and the code will be compiled into p-code. The compiler prompts you for the filename, output filename, resource filename, and the listing filename. In testing the compiler, I found it compiled the test program at a rate of 498 lines per minute. After your program has compiled, you use the Set Options application to point to the locations of the Pascal Runtime library, the Mac Library, and the p-Machine. Other choices on this menu allow you to set various startup options such as a default window and some debug options, and to set the finder bundle bit which puts the application icon on the desktop. Finally, you can run your application, and debug it if it doesn't work. I have not used the debugger yet, but with this you can do all of the normal debug operations such as single-stepping and setting break-points, and examining and patching memory, as well as some unusual things like performance monitoring either on your Mac, or by hooking up another computer directly or over a modem. The other facilities MacAdvantage gives you are a Librarian to create and maintain libraries, and an Error handler that does a number of things including allowing you to create custom error handling routines.

Once you've compiled and debugged your application, you can put it on a bootable disk. All you need besidea your application are the Pascal Runtime and p Machine applications, and the system folder with whatever system resources you need in there. I found this to be one of the most exciting parts of MacAdvantage.

The documentation for MacAdvantage, extensive as it is, should be viewed as a supplement for Inside Macintosh. SofTech has provided the source for all the interfaces to the ROM, but explanations of the calls are minimal. A rewrite of Inside Macintosh is not their intention. What they do provide is clear documentation on the use of MacAdvantage and its utilities, an overview of UCSD Pascal which primarily points out it's differences from non-Macintosh versions, and some good chapters on Macintosh interfaces, resource file creation, managing memory and p-Machine architecture. It's rounded out by the appendices which contain the ROM interface source code, error listings, and p-Code listings.

If you want my opinion, I think it's quite a deal. But this software is not cheap, and if your intention is to have a Pascal you can play with, by all means, buy MacPascal instead. However, if you are a serious software developer, MacAdvantage is something to consider. And, if you also want to develop software for the p-System market, consider purchasing the whole nine yards.

The Designer Series UCSD Pascal	$195.00
MacAdvantage: UCSD Pascal	$150.00
Advanced Development Tool Kit	$250.00
The Designer Series Pascal & MacAdvantage. Two for One Special Offer: (Available for a limited time only.)	$295.00

Hardware: Macintosh 128K or 512K, second drive recommended. Designer Series also available for Apple //e.

Ordering: SofTech MicroSystems, Inc.
16875 W. Bernardo Drive.
San Diego, CA 92127
(619) 451-1230.

VISICOLUMN:

Tips on Multiplan and the Mac

by Walton Francis

Multiplan on the Macintosh provides most users the best available spreadsheet. Particularly on the 512K Macintosh, Multiplan has most of the power of Lotus 1-2-3, very nearly its speed of calculation, faster disk operations, easier and faster use in spreadsheet design and functions such as copying cells (Lotus uses a tedious and confusing multi-layered system of commands), better cell and table formatting and graphics (especially when used with MacWrite and Microsoft Chart), and far greater learning ease (see references 1 and 2). Screen display is roughly a standoff, with the visual clarity of the Macintosh superior and its smaller display size a minus in spreadsheeting. Some of these virtues simply mirror the speed and user interface built into the Macintosh; others reflect the design of Multiplan itself (Multiplan deservedly being one of the half-dozen best selling pieces of application software of all time) and the synergism of the combination. It takes Lotus or SuperCalc III on a super-fast clone such as the Tandy 2000 equipped with a hard disk, or most probably Jazz (when it comes out), to provide a significant edge over the Multiplan/Mac combination, and then only in the largest business applications. Lotus has a clear advantage only in the use of programming macros (a feature, however, of use primarily in worksheets which are both highly complex and repetitive), and in the completeness and potential size of its data base applications.

Notwithstanding its many virtues, Multiplan has several defects and limitations. Some of these are correctible and some are not. This article explores both types. In what follows, I assume a basic familiarity with Multiplan and the Macintosh, and aim at present users, though some of the advice is equally applicable to other spreadsheets or other machines.

Big Tips

It is hard to overemphasize the importance of using the "name" approach to spreadsheet design. I often construct complex spreadsheets without a single cell reference in any formula, not just because cell references can be a major nuisance (and especially so in Multiplan with its nonstandard reference system), but because use of names greatly facilitates accurate design and documentation of models. Profits=sales-costs can't be beat as a mnemonic!

The trick to using names is to think big and think simple. I often name a whole row or column at a time and lay one name on top of another. Why mess with individual cells unless unavoidable? Not only does using a row or column heading as the name help in design, but also Multiplan expects you to do this and saves you the trouble of any typing at all. Unfortunately, I have so far been unable to construct a spreadsheet without touching the keyboard at all, but I have come close. Long live the mouse! And using names to cover whole ranges of results simplifies considerably linking multiple files. (Linking files is the means by which Multiplan beats the problems of memory limitations - January and the other months can each be a separate worksheet, with yearly totals automatically calculated on a thirteenth, thus allowing spreadsheet applications involving megabytes of data.)

I have to leave something to the manual, so in what follows I will concentrate on somewhat more subtle issues than naming and linking. This article is for tips, not tutorial.

Speed Up.

In my recent article on spreadsheet speed (reference 3), I went to great lengths to document the virtues of Multiplan on the 128K Mac, a combination which beats Lotus on MS-DOS machines without hard disks. But Multiplan's speed advantage lies primarily in file storage, not sheer calculation speed. So superior is Lotus' code that it runs a calculation in about one-third of Multiplan's time in spite of the 68000 chip in the Macintosh. What can be done? A 512K Mac is worth about a 20% speed improvement, from 10 to 8 seconds to recalculate my 1,000 cell benchmark. But of far more use is avoiding the real problem: the penalty imposed by the Mac's bit-mapped graphics. By a simple device one can halve recalculation times again, to 4 seconds for my benchmark (as compared to 3 seconds with Lotus on the IBM PC).

The trick is to run recalculations with a blank screen. This, in turn, is accomplished quite simply. Put the cursor on a cell 15 or 20 lines below or to the right of the last real entry in your model, and only then recalculate (of course, if you need to worry about this problem you are already using manual rather than automatic recalculation). Because the screen is blank, Multiplan avoids rewriting each cell and zips along faster than you ever dreamed. To automate the process, put an entry of some kind in the cell, and select the "last cell" via the mouse to avoid using the scroll bars.

The mouse and scroll bar combination is so potent in comparison to cursor keys that Microsoft didn't bother to include a "go to" command in the Mac version of Multiplan. This is all very well for smallish models, but an unbelievable drag (pun intended) in a multi-thousand cell model. What can be done to move around faster? The most common problem case involves getting from the bottom right of the spreadsheet to the upper left (going from upper left to lower right is already very fast because of the select "last cell" command). This is handled quite simply by selecting "all cells", which automatically and almost instantaneously puts the cursor in the upper left cell. In the case where there is a particular cell you want to reach (say, a variable you modify frequently), "name" it and use the select "name" command. And, of course, there is nothing wrong with using windows to move back and forth from one place to another.

Printing is another sore point we owe to bit mapped graphics. Not only does high quality printing take forever on the ImageWriter, but also it forces disk access to store the image prior to printing. The obvious solution is to use draft mode, which totally avoids graphics, but unfortunately leads to messy results since proportional spacing is lost as well. Besides, one is still left without spooling and cannot get back to work until printing is done (score another plus for clones and Lotus). There are no fully satisfactory solutions, but some partial ones. First and simplest is to rely on the Mac's ROM routines and get a screen dump (command-shift-4; see the Macintosh manual which you never bothered to read). This avoids disk access but only works a screen at a time and gives you more decoration than you wanted. Still, very nice for cases in which you want to print out 10 different options real fast - I like to use windows to show both the variable modified and the bottom line while avoiding the in-between parts of the model.

A second way to speed up printing is to use a print buffer. Mine is a Quadram Microfazer. As discussed below under hardware fixes, this has its own limitations, though it works superbly for high volume draft print jobs. And a third way is to use a hard disk or RAM disk, also discussed below (to preview: a RAM disk is a superb and cheap expedient).

A final area of possible speed up lies in storage. There is a frequent criticism that the Mac drives are slow. This is dead wrong: disk access on the Mac is very fast indeed and far superior to any 5 1/4-inch floppy system. The cause of the most noticed delays is the crippling of Mac applications software imposed by 128K of RAM - in the case of Multiplan its annoying habit of accessing the disk when you first use a new command. If all of an application were in memory at once, there wouldn't be enough memory left for decent size models. The potential solutions to this problem are hard disks and RAM disks, discussed below.

Printing and Formatting.

We all bought Mac's because we love fancy formats and typefaces. Unfortunately, even though Multiplan outshines any other spreadsheet by far in its overall appearance and formatting (for example, grid lines are an absolute delight in complex models, and showing page breaks on the screen greatly simpliflies print formatting), it has some nasty omissions.

Most aggravating by far is that the standard Multiplan font, Seattle 10, is a space hog. Coupled with the fact that (so far as I know) there is no way that Multiplan can access a compressed print mode on the ImageWriter, the volume of numbers one can place on a standard sheet of paper is less than half that obtainable with, say, Multiplan on an Apple // and an Epson printer. This and other problems, and a host of solutions, are discussed at length in an article by Lon Poole (see reference 4), and I will not repeat his excellent advice. Suffice it to say that substituting 9-point Geneva increases by about 50% the amount of data carried on both the screen and a piece of paper, that sideways printing helps a lot with models which are more horizontal than vertical, and that transferring data to MacWrite (don't forget to set tabs) gives you access to the full range of fonts and styles to fancy up your spreadsheet.

A couple of points not emphasized by Poole. First, don't forget the simplest tricks, such as reducing margins to zero and getting rid of grid lines and row and column numbers, to save space. Second, transferring Geneva to a copy of the Multiplan disk will not work if you do not use the System Folder from version 1.1 of the Finder rather than the Multiplan version. The Multiplan version seems to work but leaves you with garbage. Follow the directions given exactly, and start over if gremlins pollute your characters. Third, keeping all text within columns (i.e., not crossing column boundaries with a word or phrase) leads to much handsomer results when printing in draft quality.

Small Tips

If you are like me, you hate manuals (even short and simple ones like the Mac's) and will avoid reading them given any excuse. This is a particular problem for those of us who know spreadsheeting cold and have already paid those particular dues. In honor of such sloth, here are a few points either experts or novices may have missed:

- Multiplan provides headers, and headers can include automatic dates. Stop cutting and pasting from the clock to date your printouts!

- Not documented in the manual is the box which appears when you copy and paste from one worksheet to another. To reduce delays, click off the "formatted" option.

• Multiplan allegedly tells you how much memory you have left, via the Apple icon's "about Multiplan". The figure given is a percent; the absolute limit on worksheet size is about 42K on a 128K Mac and about 58K on a 512K Mac. The real limit for everyone except masochists is about ninety per cent of the stated capacity on the 128K Mac, and perhaps 98 per cent of capacity on the 512K Mac. After that things get very slow indeed. For big models, link rather than trying to squeeze in a few extra columns.

• Multiplan is not advertised as having a data base capability. In fact, it has quite a repertoire of capabilities when using its sort routine, particularly in combination with column moves and cutting and pasting and linking. For example, unlike Lotus you can do a three level sort by successively sorting each of three columns. You can then select the results, move them to a new model, rearrange or delete unwanted entries, reduce unwanted columns to a width of zero and wind up displaying or printing any subset you want. You can even combine data bases using common "names" and linking. The only real limitation on doing anything that a dedicated file manager will do lies in the 255 row (i.e. record) limitation.

• In the Macintosh version, Multiplan has made the printing of formulas quite a paper waster. Suppose you have just one, long 60-character formula in each column of a 50 row spreadsheet having 10 columns. To print the formulas you will have to reformat all columns to 30 characters, select "show values" to double the column width, and print. If my calculations are correct (I can't afford to experiment!), the output will require 500 pages. My trick saves a lot of paper. Copy and paste each long formula to the bottom of the worksheet (use column 1 for a cell reference and paste the formula in column 2), and then simply edit each copy to delete the = sign. This will transform them into labels. Presto, you have eliminated the need for column widening, added only 10 lines of paper to the printed output, and added a nice piece of model documentation to boot, particularly if you used names rather than cell references in your formulas.

Hardware

Some of Multiplan's limitations can be overcome by judicious hardware fixes. As for any other serious application, a second disk drive (or a ram disk) is a major convenience under Multiplan, and a virtual necessity if multiple, large files are to be linked. Because Multiplan accesses the disk frequently, the program must be on the same disk as the data unless you have two drives.

A printer buffer, used in conjunction with draft printing mode, is a necessity if your applications require lots of paper throughput. Unfortunately, the memory requirements of graphic printing are so major that even a 64K device will buffer less than one page. Still, for short spreadsheets this can be a major timesaver even in high quality printing.

With the present version of Multiplan (1.02), a 512K Mac does you less good on model size than you might reasonably expect because Microsoft wrote the program to deal with only 128K! We can be reasonably certain that Microsoft will update the program in the near future to correct this flaw, and at a modest price, for the simple reason that Jazz will take Multiplan to the cleaners otherwise. Meanwhile, a 512K Mac runs Multiplan a little faster (and a lot faster as you approach capacity limits), gives you almost 50% more nominal model size (and better than 50% more effective size), and gives you the huge benefits of a RAM disk.

According to a recent review (reference 5), neither the early versions of the Tecmar nor Corvus hard disks will operate Multiplan. This problem is related to Multiplan's software protection but is apparently not insuperable because the same review says that the Davong Winchester will run Multiplan. The Davong drive, however, shares with the others the problem that only about 150 files can be stored due to limitations of the present version of the Finder. The HyperDrive people have told me on the phone that their internal hard disk avoids these problems, and it is supposed to be very fast as well, much faster than drives hooked up through the serial port, though I am skeptical of any such claims until third party reviews appear. Regardless, a hard disk is best at solving storage size needs and only a partial answer to speed needs.

The key hardware (well, actually software) fix of benefit to Multiplan is the RAM disk (for a detailed discussion see reference 6). Operating at electronic rather than mechanical speed, the RAM disk greatly reduces the need for a second drive, considerably speeds up graphics printing (because saving the printed image to disk is so much faster), eliminates annoying disk accesses, and also immensely speeds up both manual and automatic linking of worksheets. The only disadvantages of a RAM disk are that it requires a 512K Macintosh, and reduces potentially available RAM for your own models (this disadvantage is of no practical importance for the current version of Multiplan).

The only commercial version of a RAM disk now available comes from Assimilation Process, and costs $30. I have not been able to try one yet (all the local dealers are sold out), but have heard that it works quite well indeed. There is also a freeware RAM disk which the PI will presumably offer to members soon if not by the time you read this, or which can be downloaded from CompuServe (beware the "free" version which is a pirate copy of an early version of Assimilation's; it is not only illegal but bug ridden). I have tried the freeware and it is highly functional. The only specific trick needed for Multiplan is to open it prior to transfer to the RAM disk (or rely on the Master rather than a copy), in order to avoid the problem (common to hard disks as well) of having to insert the master disk into a nonexistent drive slot. Be warned, however, that setup is tricky, involves trial and error, and does not seem to agree precisely with instructions available to date. The Assimilation Process version is presumably easier to get started on, and also offers control over the amount of reserved memory. My advice for Multiplan users is that all present 512K owners get a RAM disk, and all 128K owners consider a memory upgrade a higher priority than a second drive.

In sum, the combination of 512K Mac, RAM disk, and printer buffer provides a great improvement in Multiplan's speed and convenience for heavy duty spreadsheet use.

References:

1. Andrew T. Williams, "Multiplan Meets the Mac", Macworld, Premier Issue, 1984.

2. Mitch Trachtenberg, "Multiplan/Chart on the Macintosh", Byte, December, 1984.

3. Walton Francis, "VisiColumn: Spreadsheet Speed", Washington Apple Pi, September, 1984.

4. Lon Poole, "Spreadsheets Printed in Style", Macworld, December, 1984.

5. Danny Goodman, "Shifting into Overdrive", Macworld, December, 1984.

6. Steve Hunt, "The 512K Mac - the Real Benefits", Washington Apple Pi, January, 1985.

Using and Programming the Macintosh- a review by Bob Caldwell, NEOAC

The full title of this book is Using and Programming the Macintosh, including 32 Ready-to-Run Programs (whew!) by Fredrick Holtz. It is published by Tab Books, and costs $12.50 at local book stores. Let me say right away, that this is one of the best books out for the Macintosh. Most of the books available are simple re-writes of the Mac-Paint, and Mac-Write manuals, while this book goes beyond that to give you techniques for actuall writing graphics using Microsoft basic.

The book is organized into 10 chapters, and 6 appendices. The first few chapters cover Mac-Write, Mac-paint, and the Finder, but after that things really get going. Chapter 5 introduces Microsoft Basic, showing how to write and edit programs. The multi window operation, and built in editors, really make me envious since the mouse can be used to select and change lines at will. It is almost like having PLE built into your machine.

Chapter 6 gets deeper into programming, and is a simple introduction to Basic. Most of the major basic commands are covered, giving the Macintosh versions.

Chapter 7 is the first of the sections on graphics. It covers simple things like drawing circles (CIRCLE(X,Y),R draws a circle at coordinates X,Y with a radius of R), lines (LINE(X,Y)-(X2,Y2) draws a line from point X,Y TO X2,Y2), etc.. Some commands are new, such as PSET(X,Y),C to set a pixel to a specified color (that's built in so Mac will have the software to handle colors when the hardware is ready), and PRESET(X,Y) to reset the pixel. From here animation techniques using the PUT,and GET commands is discussed. The procedure is as follows:

1) An object is written to the screen.
2) Then the GET command is used to capture a copy of the image.
3) The original picture is erased by using the PUT command to write over the old image.
4) The PUT statement is used again to redraw the object at a new position.
5) Steps 3 and 4 are repeated as many times as neccessary to move the object where you want it. THAT'S POWER.

Chapter 8 covers file keeping, and how you can write things to the disk. Chapter 9 goes into how you can program the mouse. This allows you to write simple programs to draw on the screen.

Chapter 10 gives listings for 24 programs that illustrate many of the topics discussed in the earlier chapters, and a few new ones. Many of the programs are trivial, but most are very interesting, and show you how to use many of the ROM routines in the Macintosh using the basic CALL command. One of the neatest programs is to generate a drawing of an oriental prince. His method of making the drawing was to get a picture, enlarge it 10X place a clear plastic grid over the drawing representing the Mac pixels, the blocks are blackened in to represent the picture of interest, and the resulting coordinates are POKEd into the computers memory. Time consuming, but it works.

I really liked this book. It is a good introduction to anyone attempting to program the Mac in basic. If you have a Macintosh, run out and get this one fast, or pick up the copy in the club's library.

Macintosh Software - Approximate Prices 2/85

	Mac Connection (800) Mac-Lisa	PC Network (312) 280-0002	Compuclassics (800) 328-4473	Telesoft (800) MAC-ONLY	Conroy LaPointe (800) 547-1289	Bus. Comp. of Peterborough (800) 845-3003
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meeting dates established:
All at 10am
12/29/84
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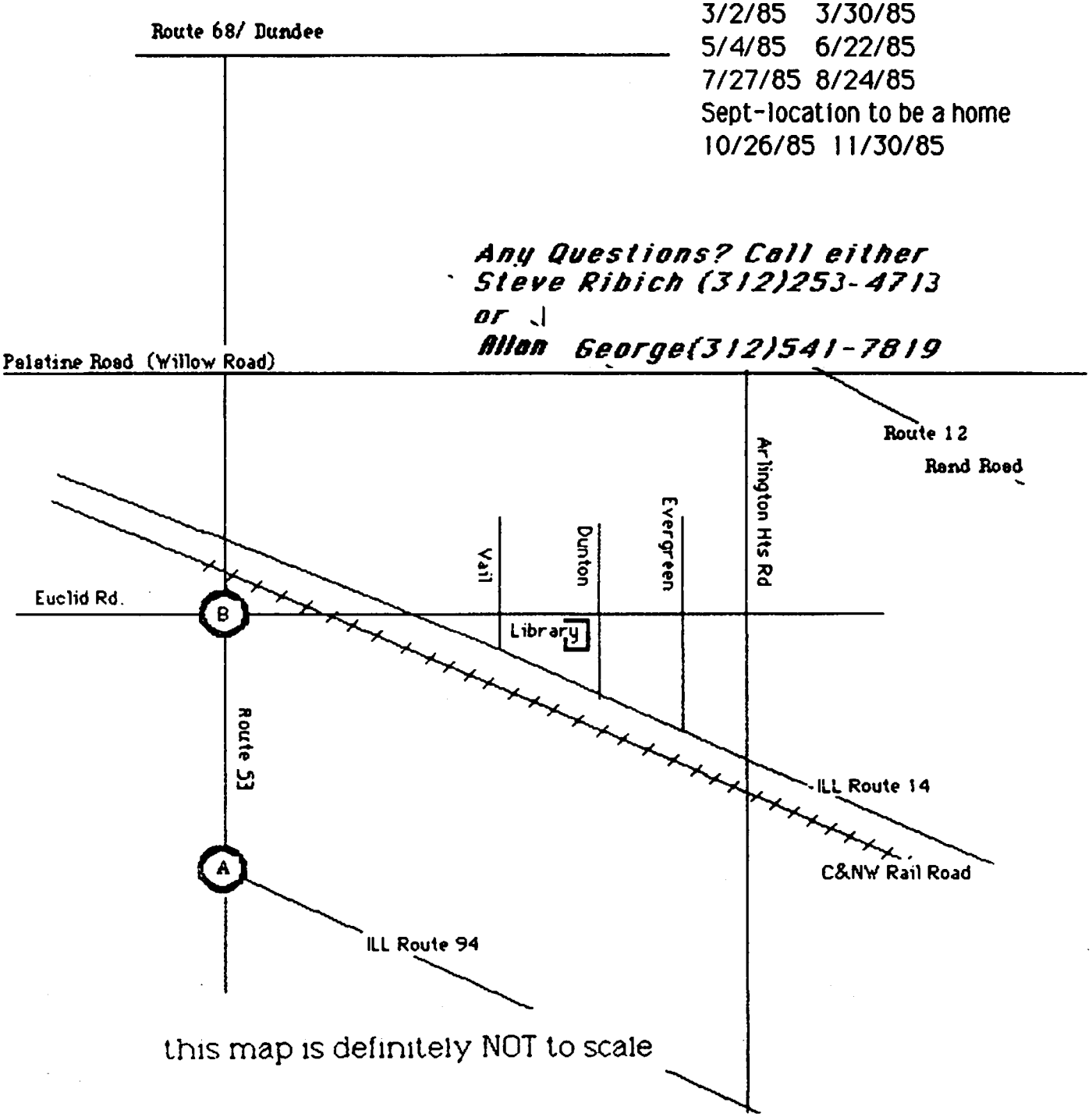
7/27/85 8/24/85
Sept-location to be a home
10/26/85 11/30/85



IBM PC

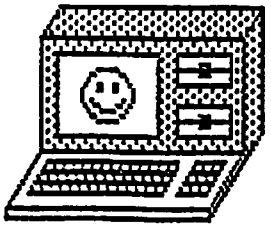
QUADBOARD:

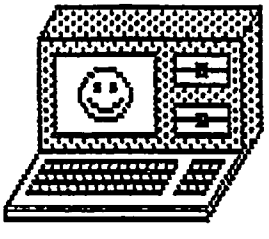
The QUADBOARD is a multi-function memory expansion board which several companies have established as their standard memory board.

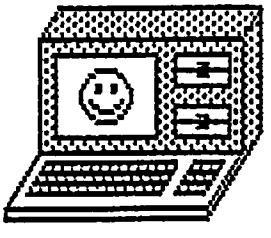
The QUADBOARD includes a battery-operated clock, a serial interface for asynchronous communications, a parallel printer interface, and a number of software utilities. This board is slightly more expensive than IBM's board, but IBM's board does nothing more than expand memory. The additional features that QUADRAM provides easily justify the difference in price.

If you have configured your PC or XT with a Monochrome Display, a printer adapter is included. If you are using a color monitor, a separate parallel printer interface must be used. The interface that is part of the QUADBOARD may be used in place of the IBM's Parallel Printer Adapter.

There are two 8-position DIP switches on the QUADBOARD which are to be used to specify which of the various memory, serial interface, parallel interface, and clock options are being used. It would be best to have the appropriate DIP switches set by your QUADBOARD vendor. The switch settings for using the various options are described in the QUADBORAD Operation Manual.







LOTUS 1-2-3 CORNER:

Lotus Development Corporation's 1-2-3 package is a raging success in a very crowed "spreadsheet" program market even though it is not the best. However, it is powerful, integrated (to be explained) and relatively easy to use, (if you can understand the documentation).

POWERFUL:

1-2-3's worksheet has 256 columns and 2048 rows. That's over 524,000 entries, provided you have the memory to support that large of a spreadsheet. This program can use up to 544 kilobytes of memory, unlike Multiplan and some other packages which cannot use a large chunk of memory, even if the computer has it. It enjoys the fastest execution speed of any spreadsheet program available for the IBM PC. 1-2-3 provides 17 mathematical functions such as absolute value or square root; 12 statistical and financial functions such as net present value or average value; 10 logical and special functions such as "if"; 5 date manipulation functions and 7 database statistical functions for use in managing files (more about files further on).

1-2-3 provides powerful features for saving and retrieving worksheets. You can, for example, extract a range of cells in one worksheet for use in another. And 1-2-3 allows you a choice of saving values or formulas themselves. You can combine worksheets also. In a file combine operation, 1-2-3 permits you to replace all or part of a worksheet, add the corresponding cells together (a true accounting consolidation can be done-- unlike Multiplan or Visicalc), or subtract the corresponding cells. You can also import ASCII text files from a program like WordStar to build complex labels in a worksheet. Perhaps the kindliest feature of all is the provision of five translation programs for users of other programs who would like to convert to 1-2-3, or just need some flexibility:

Visicalc to 1-2-3
DIF to 1-2-3 (Data Interchange Format)
dBase II to 1-2-3 (Ashton Tate database program)
1-2-3 to DIF
1-2-3 to dBase II

1-2-3 permits you to store a string of commands in a named range of cells in the worksheet. You can execute the commands by holding down just two keys at the same time. This means that a monthly report, for example, can be constructed the same way, every time, without fear of error by just entering a simple keystroke or a series of keystrokes. Lotus calls this facility "keyboard macros," I

call it programming.

INTEGRATION:

1-2-3 links spreadsheet functions with graphics and information management (files/databases) in a single package. This integration of the functions most business users want is a primary reason for 1-2-3's singular success today.

You can build your choice of a bar graph, line chart or pie chart in your choice of several formats directly from a worksheet. A series of menus steps you through the graph building process. The output from the graphics procedure can also be stored separately for independent use. With the right printer or plotter (about 16 different models are supported), you can have a hard copy of your graph.

By formatting a worksheet according to specific 1-2-3 rules, the contents can be treated like a file (database). 1-2-3 then becomes a tool for record keeping. The data in your file can be sorted and then printed according to the criteria you supply. You can make inquiries into the file and then extract or delete records. The selection criteria for the queries can be complex (all Milwaukee Branch agencies with net written premiums over $100,000 and having underwriting authority). Worksheets designed to be used as files can also be used to prepare graphic output.

EASY TO USE:

like Multiplan, 1-2-3 is menu driven. You don't have to remember a complex series of entries to build a worksheet--you are stepped through menus of commands and move the cursor to select movement within a menu by entering the first letter of the command.

1-2-3 also supplies a comprehensive help facility. If you are stuck in the middle of a complicated function, or just don't like reference manuals, you can hit one key to get help on the current operation.

To invoke the help facility, 1-2-3 uses a dedicated key. Functions like help, graph, or goto can be executed by pressing just one of ten keys on the left side of the IBM keyboard. Lotus even supplies a template to put over these keys to show what they are.

1-2-3 includes a complete on-line tutorial with six lessons. Someone totally new to the personal computers can start with the first lesson and not be overwhelmed with jargon. Experienced electronic spreadsheet users can skim the early lessons to get to the "meat." Incidentally, experienced users will find a friendly resemblance to Visicalc in 1-2-3's command structure.

Are there any drawbacks to 1-2-3? Well, it helps to have a color terminal. The program uses color to its advantage for warning messages and color graphics. It also requires a lot of your IBM PC, PC/XT or Compaq computer--a minimum of 192 kilobytes of memory, and two double-sided, double-density disk drives (or one plus a hard disk). It also costs a little more--about $495--but it's worth it.

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USE CAUTION WHEN YOU SET UP YOUR XT

Are you thinking of acquiring an XT? It has a hard disk in place of the right-side floppy with storage of over 10 million characters. All that space is wonderful--no more floppies to store and carry around. But you can fill up the directory of the files and programs on the disk. Once the directory has 512 entries it can accept no more! Even if the directory is only half full, looking through 250 file names to find one of yours will be annoying at best.

DOS 2.0, the operating system for the hard disk machine, has a feature called sub-directories to abate this frustration. Several users in a department or company can share the space on the hard disk using separate directories for only their own files; or, separate directories for one application and all its users' files--WordStar, for example.

The very first thing you do with the XT is format the hard disk. If you don't format it with a name, you get messages that tell you it doesn't have a name every time you list your directory. If you list all your sub-directories you get 11 question marks for forgetting to name it ??????????? Annoying? YES!

Setting up and using directories can be tricky--DOS itself can be tricky! We will be discussing DOS and SUB-DIRECTORIES in future issues as well as future meetings.

MULTIPLAN IS NOT MERELY ANOTHER VISICALC LOOK-ALIKE

There are a lot of differences between VISICALC, by VISICORP, and MULTIPLAN, by MICROSOFT, INC. Both are electronic spreadsheet software packages, but Multiplan includes new features and improvements. It is second-generation software. The concept is the same - provide an accounting worksheet with lots of columns and rows, easily changed on the computer - the execution is quite different.

The easiest way to introduce you to MULTIPLAN is to identify the significant features it has that VISICALC does not. Here goes:

Menu of Commands - Multiplan uses twenty English words that are always visible on the screen to start all activity.

On-line Help -A help facility with explanatory text is available on-line if you get stuck in the middle of an operation.

Tutorial - Multiplan is easy to learn because of its menu-like approach, its on-line help facility, and its excellent tutorial. It includes a diskette with sample worksheets to practice on. The tutorial is divided into two parts - fundamentals and advanced features.

Linking Worksheets - Up to eight worksheets can be linked together in a sub-ledger, general ledger type relationship. For example, you could build separate worksheets of expenses by month for eight departments. The total lines from each could be used to build a "master" worksheet of expense totals for each department. True consolidations are not supported.

Iteration - Both software packages will give an error for a circular reference - formulas that reference the results of each other. However, by selecting the iteration option in Multiplan and specifying certain other criteria, these iteration problems can be resolved. This means that Internal Rate of Return (IRR) models or binary searches can be implemented.

Sorting - Rows can be sorted within specified columns using a key field that you identify. You can choose to sort in ascending or descending sequence.

Naming - Each row/column location in Multiplan is called a cell. Cells can be named, rows can be named, columns can be named, or contiguous groups of row/column locations can be named. Names can be used in formulas (Gross Profits = Sales - Costs); in functions like sum; or in linking pieces of one worksheet to another that it supports.

Formatting - Multiplan makes formatting a cell very easy. Three are extensive formatting options available to change the width of cells in a column, center data in a column, give data a dollar and cents format, express data as an integer or a percent and more!

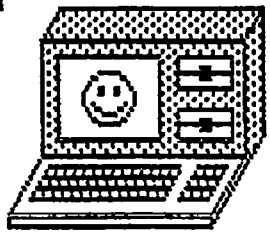
Insert and Delete - Multiplan allows you to delete or insert a row between specified columns, and to delete or insert a column between specified rows. This can be extremely useful in correcting errors you may have made in copying (replicating for Visicalc users).

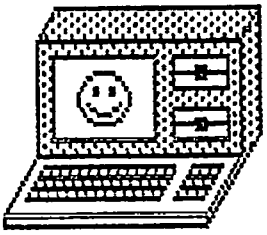
That summarizes some of the major differences between the two spreadsheet packages. It would not be fair to avoid pointing some of Multiplan's weaknesses. Yes, there are a couple:

Keyboard - The IBM PC keyboard is complex (compared to an Apple's) and Multiplan uses all of the keys. There are cursor movement keys, numeric keypad locks, and function keys galore - confusing. Different keys are used to enter and edit commands versus edit text or formulas, for example. Patience and care are required.

Formulas - Multiplan formulas are designed to be built using relative references (use that cell relative to the position of the current cell) as opposed to absolute references (use the cell in Row 3 Column 12.) This makes initially building formulas more tedious. However, copying formulas is made much, much easier using this approach. Of course, absolute references can be used in formulas, if necessary.

Multiplan will operate on both the IBM PC and the APPLE. It provides improved functions and ease-of-use over VISICALC and other early spreadsheet systems. It does much more than replace your pencil, thirteen-column pad and calculator!





APRIL 13, 1985
HARPER COLLEGE
PALATINE, IL.
10:00 A.M. TO 1:00 P.M.
BUILDING A ROOM 242

IBM PC USERS GROUP MEETING

10:00-10:15 am Introduction
(Rich McNeil)

10:15-11:40 am CREATING BOOTABLE DISKS

10:45-11:00 am DISK OF THE MONTH
(X DIR 54-Catalog listing Program)

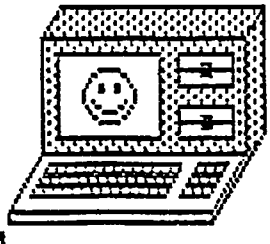
11:00-11:30 am GENERAL BUSINESS

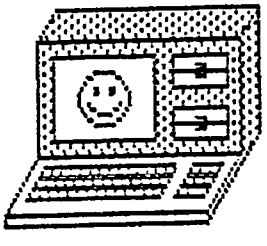
11:30-11:45 am BREAK

11:45-12:15 pm ANCIENT ART OF WAR
(Game for PC & PCjr

12:15-12:30 pm DISCUSSION OF PRINTER
DRIVERS for PROWRITER

12:30- 1:00 PM ASK MR. PC





SIG NEWS

MACINTOSH SIG

We now have a permanent meeting place for the Mac SIG. Future meetings will be held at the Arlington Heights Public Library, in the Dunton Room. See related information in this Harvest for a map and schedule.

The Mac SIG is setting up an Electronic Mail system for SIG members. Contact Alan George for details (541-7819).

EDUCATION SIG

The movers and shakers of the Education SIG have moved on to greener pastures. Is there someone out their who wishes to start a new group? This is a natural for our club and it should be a very active group with all the resources available.

ASSEMBLY LANGUAGE SIG

There are two ASSEMBLY LANGUAGE SIGs which are:

BEGINNERS ASSEMBLY LANGUAGE SIG will meet the 2nd and 4th Thursday at Miner Jr High, 1101 E Miner St. Arlington Hts, Rm 1, 7:30pm. For additional informaton call Helen Tufts 392-7735.

ADVANCED ASSEMBLY LANGUAGE & HARDWARE SIG will meet 1st Sunday and 3rd Monday of each month. Call Chris Otis 885-7543 for additional information.

BUSINESS SIG

Meets on the fourth Saturday of every month at 10:00 am at:

Mount Prospect Public Library
10 South Emerson Street
Mount Prospect, Illinois

(One block east of the intersection of Elmhurst Road (rte. 83) and Central Road). For additional information call Wesley Kiel 593-7690

LIBRARY SIG

Meets on the first Thursday of the month at 7:30 p.m.

Call Joe Zeinz at 312/526-0575 for additional information.

GRAPHICS SIG?????

People wishing to form a Graphics SIG are asked to call Raymond Oviyach, 312-560-0715.

BEGINNERS SIG

The SIG continues to have two beginners' groups meeting. It is oriented towards helping "new" or "rusty" Apple users deal with the many questions, frustrations, confusions and "mistakes" that we all have made "in the beginning".

Attendees provide the direction for the meetings by the questions they ask and the topics they bring up. Experienced NIAUG members are the answerers and explainers.

NIAUG members wishing to join the SIG should call Guy Lyle at 312/359-1458.
NOTE: NIAUG membership is required.

WPL SIG

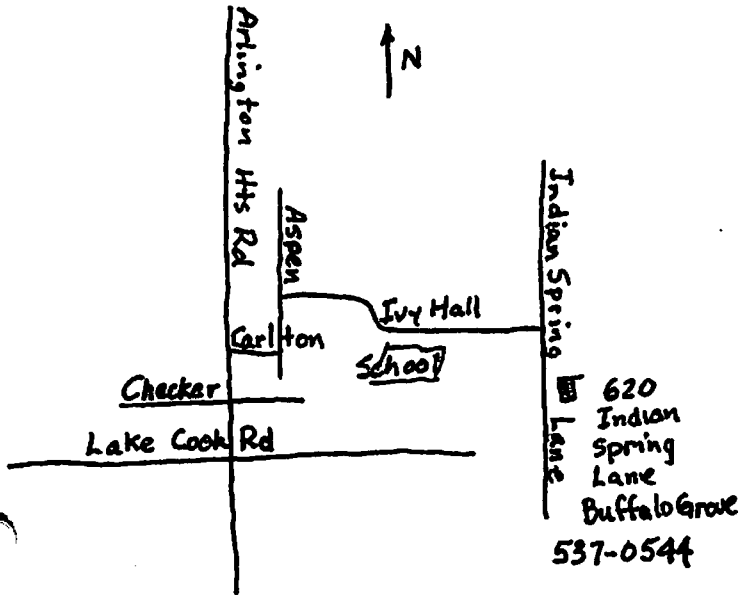
(Word Processing Language in the APPLEWRITER Wordprocessor)

Will meet 3 times-
Starts Thursday April 18
May 2
Ends on May 16

From: 7:30-9:30 pm

At: Miner LD Center
1101 E. Miner
Arlington Heights
(corner of Miner & Dryden, across from Arlington Market)
For information call Con Spirrison 593-1122

NIAUG PLANNING MEETING



CLUB NEWS

NORTHERN ILLINOIS APPLE USERS GROUP
APRIL AGENDA
APRRIL 13, 1985.
APRIL'S Meeting will
be held in Bldg E RM 106
Harper College

10:00-10:30 am Opening Remarks/Club Business
(Rob Stewart)

10:30-11:00 am NEW NIAUG BULLETIN BOARD
(Loren Avenson)

11:00-12:00 am APPLE WORKS
(Mike Sloan)

12:00-12:15 am Break
12:10-12:45 pm QUICKFILE TO APPLEWORKS
(George McClarity)

12:45- 1:00 pm Mr. APPLE/CLOSING REMARKS
(Rob Stewart)

Future meeting dates May 4, June 1
Please note these dates are the first Saturday of the month

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ADVERTISING

All members of NIAUG may advertise free of charge, in the form of unclassified ads, as long as the ad is not part of a commercial endeavor.

NIAUG Members may also advertise commercial ventures using an unclassified ad 1/2 page wide format at $3/issue/five line increment or use the regular box ads at the commercial rates.

COMMERCIAL ADVERTISING-
All ads must be prepaid and camera ready to the prescribed size as follows:
Full page -7 1/2" wide X 10" high= $55/issue
Half page -3 1/2" wide X 10" high= $30/issue
Half page -7 1/2" wide X 4 3/4" high=$30/issue
Quarter page-3 1/2" wide X 4 3/4" high=$16/issue
Eighth page -3 1/2" wide X 2 1/4" high=$9/issue

All ads must be received by the copy deadline for the given issue.

THE HARVEST NEWSLETTER
N.I.A.U.G.
1015 S. RIDGE AVE,
ARLINGTON HEIGHTS, IL.
60005.

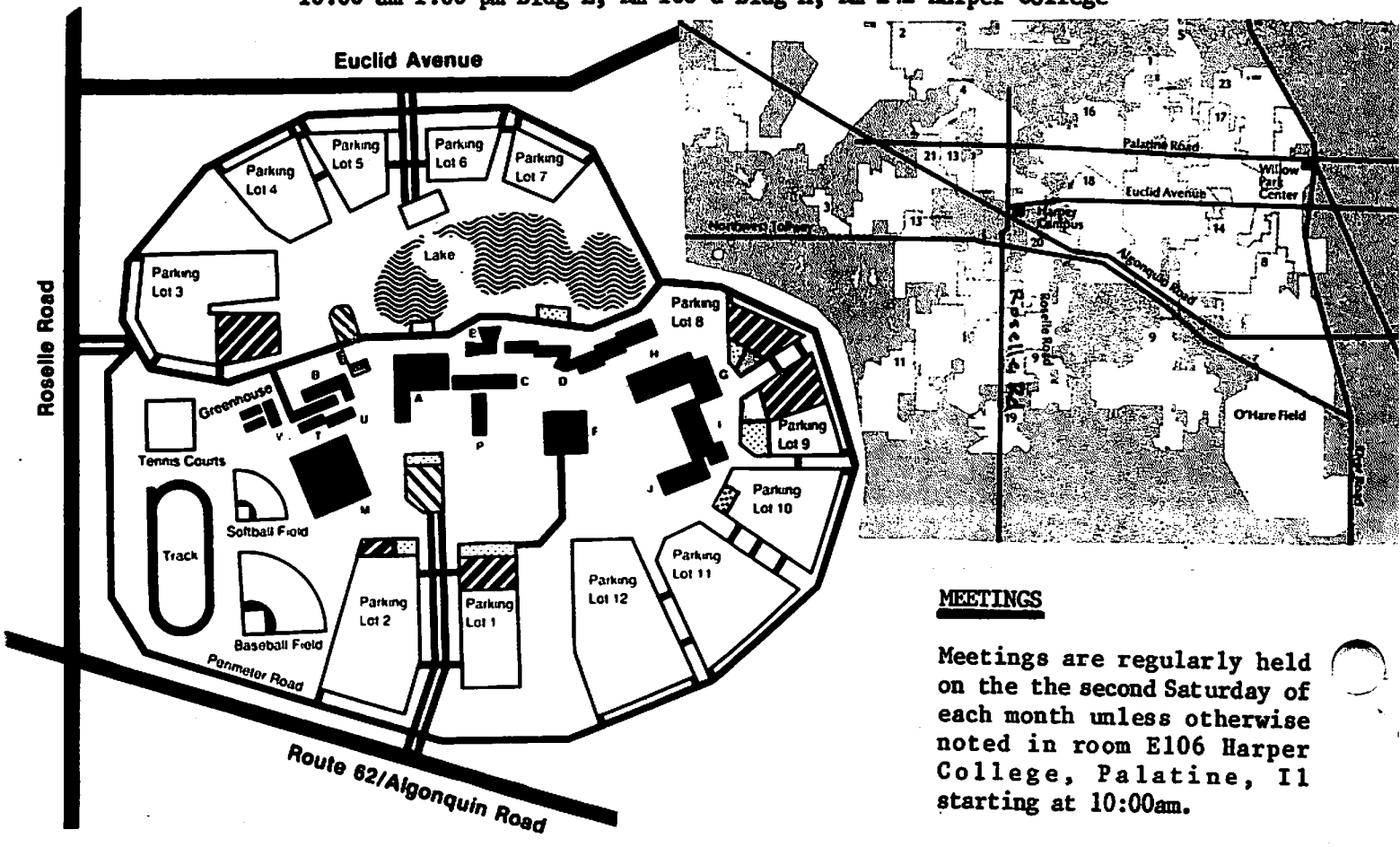
BULK MAIL
US POSTAGE PAID
PERMIT 170
MT PROSPECT IL

Michael L Robins 12/84
22 Foxwood Run
Middletown NJ 07748

POSTMASTER-CONTENTS DATED
-FORWARDING REQUESTED
-ADDRESS CORRECTION REQUESTED

MEETING DATE April 13, 1985

10:00 am-1:00 pm Bldg E, Rm 106 & Bldg A, Rm 242 Harper College



MEETINGS

Meetings are regularly held on the the second Saturday of each month unless otherwise noted in room E106 Harper College, Palatine, Il starting at 10:00am.